COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,
MELBOURNE, AUSTRALIA.

LABOUR AND INDUSTRIAL BRANCH
REPORT No 9.

Prices, Purchasing-Power-of-Money, Wages, Trade Unions, Unemployment, and General Industrial Conditions, 1918.

Prepared under instructions from the Minister of State
for Home and Territories.

BY

G. H. KNIBBS, C.M.G.,

Honorary Fellow of the Royal Statistical Society, Honorary
Member of the American Statistical Association, and of
the Société de Statistique de Paris, Membre de l'Institut
International de Statistique, etc., etc., etc.

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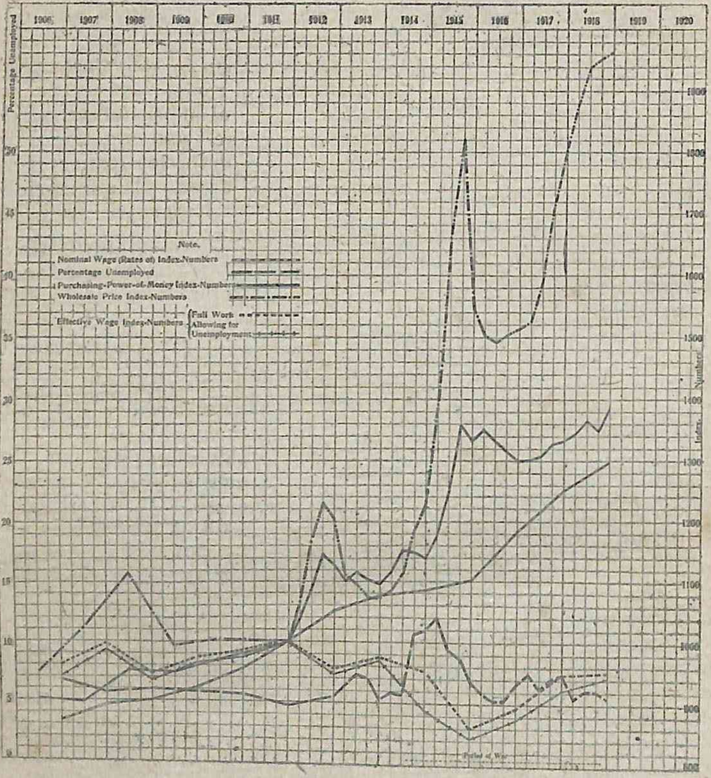
Purchasing-Power-of-Money, Wholesale Prices, and Nominal and Effective Wage Index-Numbers, and Percentage of Unemployed.



Explanatory Note.—The figures on the left represent the scale for the percentage of persons unemployed according to trade union returns. The figures on the right represent the scale for the several index-numbers, the year 1911 being taken in each case as base (= 1000). Since the end of the year 1911 the index-numbers for cost of food, groceries, and house rent (average for the six metropolitan towns) and for wholesale prices (Melbourne) are shewn each quarter, while unemployment percentages are shewn quarterly since the end of the year 1912 only. Unemployment figures for previous years are shewn as at the end of each year, while other index-numbers refer to the average for the whole year. Nominal and effective wage index-numbers are only computed annually. It should be observed that the purchasing-power-of-money and wholesale price index-numbers since the year 1911 shew the average level during the whole of each quarter; but for purposes of convenience they have, however, been plotted on the graph as at the end, and not the middle, of each quarter. The purchasing-power-of-money index-number is based upon a constant regimen: see Report No. 1, Appendix vii., and Labour Bulletin No. 9, pp. 27 to 46.

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SECTION I.—INTRODUCTION.

1. **General.**—This report contains information in summarised form regarding trade unionism, unemployment, prices, rents, purchasing-power of money, wages, industrial disputes, and general industrial conditions. These comprise the matters of most general interest and importance now being investigated from year to year (beginning on the 1st January, 1913) by the Labour and Industrial Branch of this Bureau. The inquiries in regard to several of these matters were extended back to the year 1891, so as to furnish statistics comparable with those published herein for 1918. The continuity of the returns now being collected is thus substantially preserved.

In addition, the Appendixes to the Report furnish detailed particulars in a comparable form—firstly, as to prices (wholesale and retail) and rents for the year 1918, and secondly, as to current rates of wages and hours of labour in all the more important trades and occupations in the several States.

The interests concerned in certain of these questions are varied and extensive, and associated with the latter are some important aspects of those economic and industrial problems which have, in comparatively recent years, become the subject of so much research and discussion on the part of statesmen, publicists and students, as well as of those who are engaged in the practical application of Conciliation and Arbitration, Industrial Court and Wages Board Acts.

Most, if not all, of the subjects dealt with in this Report have, in the past, not received in the Commonwealth that attention they now demand, and in view of the lack of data bearing thereon, it became necessary, before any comprehensive or reliable results could be obtained, to commence the collection of the data *de novo*, and to create a suitable organisation for that purpose.

In consequence of the urgent necessity for economy, the publication of the Quarterly Labour Bulletins ceased with No. 18 (June, 1917). The principal tables hitherto published in these Bulletins will, in future, be included in the Quarterly Summary of Australian Statistics.

In 1917 a Royal Commission was appointed by the Western Australian Government to inquire into the cost of necessaries of life. This Commission conducted an inquiry by means of household budgets. In response to a request of this Commission the Commonwealth Statistician was authorised by the Minister for Home and Territories (Hon. P. McM. Glynn, K.C.M.P.), to undertake the necessary analysis and tabulations of the returns received. This was done, and the report furnished to the Western Australian Government is now given in Section VI. hereof.

NOTE.—The Labour Report, in its accounts of proceedings, abstracts of reports, legal decisions, quotations and other matters of concern to labour, is not to be regarded as expressing an official endorsement of any of the views or opinions contained therein.

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Notwithstanding the very explicit statement of the purpose and scope of the investigations of the Bureau as to variations in prices and purchasing-power of money given in the various Labour Reports, misunderstandings in regard thereto are still prevalent. An endeavour has been made to set forth the essentials of the problem and of its solution, with sufficient illustration to enable anyone, who, being qualified to form a competent opinion, will give the matter serious attention. A limited number of copies of this article have already been issued in pamphlet form, and the report now appears as Appendix I. hereof. Part I. of this Appendix consists of introductory remarks on price-indexes. In Part II. the purchasing-power of money and the nature of price indexes is indicated, while in Parts III. and IV. the technique and significance of price-indexes are dealt with in detail.

In Appendixes II. and III. wholesale and retail price index-numbers are given for a number of other countries from 1840 in the case of wholesale, and 1877 in the case of retail prices. In addition tabular information is given of the commodities included both for wholesale and retail prices investigations in the countries reviewed.

2. **Sources of Information.**—In the collection of the data upon which the particulars given in this Report are based, a great variety of sources of information has been utilised. For example, in the collection of data as to the purchasing-power of money, particulars are obtained direct from retail dealers and house-agents, the complete scheme providing for the collection, analysis, and tabulation of over 140,000 separate prices and quotations each year. Particulars as to wholesale prices are taken from the market quotations in the daily press and in trade journals. Information as to unemployment is collected from trade-unions, partly direct and partly through the labour agents and correspondents, whose services are also utilised in collecting returns from trade unions as to industrial disputes and changes in rates of wage. As regards the last two matters, however, returns are also collected from employers and employers' associations. A large number of reports and returns are also received from official sources. These relate to operations of industrial courts and wages boards, employment bureaux, assisted and nominated immigrants, accidents, and cognate matters. Although the work of collecting the necessary information and of keeping in touch with industrial conditions and matters throughout the whole Commonwealth from a single bureau centralised in Melbourne is necessarily one of some difficulty and magnitude, it is felt that the conspectus which is thus given of the industrial affairs of the entire Commonwealth fully justifies the effort, and is essential to the proper control and direction of Australia's development in this regard.

On return to the central Bureau, the particulars given on the forms are examined and checked, and in case of any discrepancy or apparent inconsistency, the forms are returned for verification and correction.

It is gratifying to note that the response of all persons has been, on the whole, satisfactory, and the thanks of the Bureau are due to many who went to a certain amount of trouble and personal inconvenience in order to obtain the desired information from the books of their Associations and from other sources.

3. **Classification of Industries.**—For the purpose of tabulating and publishing the results of the investigations which have been made in regard to labour organisation, unemployment, rates of wage, industrial disputes, etc., the following industrial classification of trades and occupations has been adopted:—

Classification of Industries and Occupations.

I.	Wood, Furniture, Sawmill, Timber-works, &c.
II.	Engineering, Metal Works, &c.
III.	Food, Drink, and Tobacco, Manufacture and Distribution.
IV.	Clothing, Hats, Boots, Textiles, &c.
V.	Books, Printing, Bookbinding, &c.
VI.	Other Manufacturing.
VII.	Building.
VIII.	Mining, Quarries, &c.
IX.	Railway and Tramway Services.
X.	Other Land Transport.
XI.	Shipping, Wharf Labour, &c.
XII.	Pastoral, Agricultural, Rural, Horticultural, &c.
XIII.	Domestic, Hotels, &c.
XIV.	Miscellaneous.

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SECTION II.—LABOUR ORGANISATIONS.

1. **General.**—In Report No. 2 the method adopted in ascertaining the number of members in labour organisations throughout the Commonwealth was outlined, and the results, tabulated up to the end of 1912, were given. From the beginning of 1913 quarterly returns have been obtained from a considerable number of trade unions, both as to membership and unemployment, and this was supplemented at the end of the year by special inquiries as to the membership of those unions which, owing to the nature of the callings and industries covered, were unable to furnish quarterly unemployment returns. The following pages shew the general situation in regard to the trades union movement in the Commonwealth at the present time, and also its development since the year 1906. It is now fully recognised by all concerned that the affairs of no single union are disclosed in the published results. It is, perhaps, almost unnecessary to add that the investigations are based upon an impartial review of the evidence, and are used solely for general statistical purposes. The wide recognition of this has led to a more cordial readiness to assist the Bureau in securing complete information, and the thanks of the Bureau are again due to the Secretaries of Trade Unions for their cordial co-operation in this matter.

2. **Development of Trade Unions in Australia, 1906 to 1918.**—The following table shews for the years specified the total number of trade unions in the Commonwealth, and the number and membership of those unions for which membership is available. The estimated total membership of all unions for years prior to 1912 is shewn in the last line of the table.

Number and Membership of Trade Unions in Commonwealth at end of each Year Specified, 1906 to 1918.

Particulars.	1906.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
Total Number of Unions ..	302	482	573	621	710	712	713	705	747	767
No. of Unions for which membership available ..	253	442	542	621	710	712	713	705	747	767
Membership of these Unions	147,049	277,047	344,990	433,224	497,925	523,271	528,031	546,556	564,187	581,755
Estimated Total Membership of all Unions	175,529	302,119	364,732	"	"	"	"	"	"	"

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These figures shew that the number of unions in 1918 was more than double the number in 1906. The estimated membership during the same period increased nearly four-fold. The estimated increase in membership in any one year was greatest in 1912, when it amounted to 68,492, and least in 1915, when it was only 4760. The increase in the year 1914 was 25,346; in 1915 4760; in 1916 18,525; in 1917 17,631, and in 1918 17,568.

3. Number and Membership of Trade Unions and Branches, 1912 to 1918.—The following table gives particulars of the number of trade unions, the number of branch unions, and the number of members in each State and the Commonwealth at the end of the years 1912 to 1918.

Number of Trade Unions, Branch Unions and Membership, at end of Years 1912 to 1918.

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N'thern T'tory.	Total.	C'wlth.
				NO. OF SEPARATE UNIONS.					
1912 ..	177	151	67	78	97	51	..	621	*408
1913 ..	201	162	94	86	107	60	..	710	*432
1914 ..	197	170	86	87	107	62	3	712	*430
1915 ..	203	161	89	87	104	66	3	713	*415
1916 ..	199	151	93	86	107	66	3	705	*392
1917 ..	220	156	96	93	108	71	3	747	*389
1918 ..	217	158	102	101	111	74	4	767	*394
				NO. OF BRANCHES.					
1912 ..	453	241	226	62	177	33	..	1,192	†1,405
1913 ..	555	292	230	74	174	60	..	1,385	†1,663
1914 ..	598	314	224	85	214	62	..	1,497	†1,779
1915 ..	721	312	246	94	203	63	..	1,639	†1,937
1916 ..	790	361	290	102	170	72	..	1,785	†2,098
1917 ..	765	353	291	98	195	76	..	1,778	†2,136
1918 ..	785	346	298	137	195	75	..	1,836	†2,209
				NO. OF MEMBERS.					
1912 ..	192,626	116,557	44,768	37,336	33,282	8,655	..	433,224	433,224
1913 ..	230,677	130,176	51,683	40,061	35,317	10,011	..	497,925	497,925
1914 ..	240,023	138,810	55,580	40,956	38,106	9,149	647	523,271	523,271
1915 ..	241,979	141,993	58,310	39,264	35,980	9,346	1,159	528,031	528,031
1916 ..	244,074	147,614	66,807	42,537	33,900	10,263	1,361	546,556	546,556
1917 ..	248,851	148,730	75,393	45,400	33,263	10,886	1,664	564,187	564,187
1918 ..	243,176	152,063	87,737	51,559	33,761	11,900	1,559	581,755	581,755
				PERCENTAGE INCREASE IN MEMBERSHIP.					
1913 ..	12.0	11.2	11.5	10.7	10.6	11.6	..	11.5	11.5
1914 ..	4.1	6.6	7.5	2.2	7.9	‡8.6	..	5.1	5.1
1915 ..	0.8	2.3	4.9	‡4.1	‡5.6	2.2	79.1	0.9	0.9
1916 ..	0.9	4.0	14.6	8.3	‡5.8	9.8	17.4	3.5	3.5
1917 ..	2.0	0.8	12.9	6.7	‡1.9	6.1	22.3	3.2	3.2
1918 ..	‡2.3	2.2	16.4	13.6	1.5	9.3	‡6.3	3.1	3.1

* Allowing for inter-State excess. The figures represent the number of distinct organisations and inter-State groups of organisations in the Commonwealth. They do not represent the total number of organisations which are practically independent and self-governing (see remarks below). † Includes not only branches of separate State unions and sub-branches in each State of inter-State unions, but also head State branches of inter-State unions. ‡ Decrease.

In the above table, under heading the "Number of Separate Unions," each union represented in a State is counted only once, regardless of the number of branches in that State. In taking the total number of separate unions in the Commonwealth (see last column but one), it is obvious that, in the case of inter-State and similar unions, there will be duplication, since each such union is counted once in each State in which it has any branches. In the figures given in the last column, deduction is made for this duplication.

Except in the last column, the "Number of Branches" indicates the number of branches of State head offices, which may, of course, themselves be branches of an inter-State or larger organisation. State branches of inter-State or federated unions, as well as sub-branches within a State, are included under the heading "branches" in the last column. It should be observed that the schemes of organisation of these inter-State or federated unions vary greatly in character, and the number of separate Commonwealth unions does not fairly represent the number of practically independent organisations in Australia. In some of these unions the State organisations are bound together under a system of unification with centralised control, while in others the State units are practically independent and self-governing, the federal bond being loose and existing only for one or two specified purposes.

The increase in membership in 1913 was equal to 11.5; in 1914 to 5.1; in 1915 to 0.9; in 1916 to 3.5; in 1917 to 3.2; and in 1918 to 3.1 per cent. The increase in population from 1912 to 1913 amounted to 1.02 per cent., and from 1913 to 1914 to 1.4 per cent. Comparing the year 1918 with the first year for which information is given in the table, viz., 1912, it will be seen that there has been an increase in membership of trade unions of no less than 34.3 per cent. The increase in population during the same period amounts to 6.3 per cent.

There has been an increase in membership in Victoria and Queensland in each of the years 1913 to 1918 inclusive, and in New South Wales and the Northern Territory in each year except 1918. In South Australia there was a decrease in membership in 1915, and in Tasmania in 1914, but both States shew increases in the remaining years. In Western Australia there was a decrease in each of the years 1915, 1916, and 1917, and an increase in 1913, 1914, and 1918.

It may be stated that the comparatively large increase in membership in Queensland and South Australia is mainly the result of the operations of recent industrial legislation, under which organisations of Government servants may make application for awards. Consequently, such employees have availed themselves of the provisions of this legislation, and thus increased the aggregate total membership in those States.

4. **Number of Unions and Membership in Industrial Groups, 1918.**—The following table gives the number of unions and membership in Industrial Groups in each State. The number of unions specified for each State refers to the number of different unions represented in each State; that is to say, inter-State or federated unions are counted once in each State in which they are represented, but sub-branches within a State are not counted. In order to avoid disclosing the affairs of individual unions, in cases where there are only either one or two unions in any group in a State, the membership is not given separately, but is included in the total figures for the State and Commonwealth.

Number of Unions and Membership in Industrial Groups in each State, December, 1918.

NUMBER OF UNIONS.

Industrial Groups.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	N'thn. T'tory.	Total.
I. Wood, Furniture, etc. ..	4	3	2	3	4	4	..	20
II. Engineering, Metal Works, etc.	21	19	11	11	8	6	1	77
III. Food, Drink, Tobacco, etc. ..	23	18	7	10	14	8	..	80
IV. Clothing, Hats, Boots, etc. ..	9	7	2	3	3	4	..	28
V. Books, Printing, etc.	8	10	3	2	5	2	..	30
VI. Other Manufacturing	28	20	9	14	8	5	..	84
VII. Building	14	13	9	8	9	4	1	58
VIII. Mining, Quarries, etc.	14	3	1	2	4	2	..	26
IX. Railway and Tramway Services	11	6	4	6	9	4	..	40
X. Other Land Transport ..	9	5	3	2	2	2	..	23
XI. Shipping, etc.	19	8	18	10	7	10	..	72
XII. Pastoral, Agricultural, etc. ..	3	2	1	1	1	1	..	9
XIII. Domestic, Hotels, etc. ..	8	4	1	2	5	..	..	20
XIV. Miscellaneous	46	40	31	27	32	22	2	200
Total	217	158	102	101	111	74	4	767

NUMBER OF MEMBERS.

Industrial Groups.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	N'thn. T'tory.	Total.
I. Wood, Furniture, etc. ..	7,536	5,446	*	1,163	1,708	1,213	..	†17,066
II. Engineering, Metal Works, etc.	23,685	11,140	4,977	4,545	2,317	471	*	47,135
III. Food, Drink, Tobacco, etc. ..	16,523	12,251	6,518	2,778	1,426	1,457	..	40,953
IV. Clothing, Hats, Boots, etc. ..	9,542	17,268	*	1,823	813	462	..	†29,908
V. Books, Printing, etc.	5,263	3,907	1,239	*	463	*	..	11,972
VI. Other Manufacturing	15,570	10,132	1,247	2,057	1,427	240	..	30,673
VII. Building	15 377	11,5 8	4,553	2,531	1,164	548	*	35,761
VIII. Mines, Quarries, etc.	21,695	3,126	2,975	*	4,278	*	..	35,519
IX. Railway and Tramway Services	30,974	18,387	11,397	6,387	6,712	956	..	74,813
X. Other Land Transport ..	6,143	3,81[illegible]	2,297	*	*	*	..	14,487
XI. Shipping, etc.	24,042	12,938	5,516	5,809	1,206	892	..	50,433
XII. Pastoral, Agricultural, etc. ..	15,060	§	*	*	*	*	..	44,176
XIII. Domestic, Hotels, etc. ..	5,975	2,499	*	*	1,306	..	..	11,169
XIV. Miscellaneous	45,791	39,568	32,148	15,947	9,299	2,229	*	133,855
Total	243,176	152,063	87,737	51,559	33,761	11,900	‡1,559	581,755

* Not available for publication separately; included in State and Commonwealth totals. † Incomplete, see footnote *. ‡ Membership of Groups II., VII. and XIV. included in the South Australian numbers. § Membership included in total for Group XIV.

5. **Percentage of Male and Female Members of Unions, 1918.** The results of the Census taken in 1911 shew the percentage of male and female employees (i.e., persons "in receipt of wages or salary," and persons "unemployed"), 20 years of age and over, on the total male and female population. Applying these percentages to the estimated total male and female population in 1918, the estimated number of adult employees of each sex in 1918 is obtained. This is, of course, subject to some measure of uncertainty at a point of time—like the present—viz., 7-8 years after the date of the Census.

The following table shews separately for males and females and for each State (a) the number of members of trade unions, (b) the estimated total number of employees of each sex, 20 years of age and over, in all professions, trades, and occupations, and (c) the percentage of the former (a) on the latter (b). It should be pointed out that *the* *estimated total number of employees comprises all persons (over the age specified) in receipt of wages or salary, as well as those unemployed;* the estimate therefore includes a large number of adults who are either not eligible at all for membership of any trade union (such as certain persons employed in professional occupations) or who, while eligible for membership in so far as the nature of their trade or occupation is concerned, do not reside in a locality which is covered by any union embracing their particular trade or occupation. It is also proper to observe that the age at which persons are eligible for membership varies in different unions. The Census results are classified in quinquennial age groups, and the sum of the groups 20 years of age and over is taken as more closely approximating to the average age of admission to membership than that of any other groups.

Percentage of Male and Female Members of Unions on Estimated Total Number of Male and Female Employees, 20 years of Age and over, in all Professions, Trades, and Occupations, at end of Year 1918.*

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Nthn. T'tory.	C'wlth.
MALES.								
No. of Members of Unions ..	227,097	130,704	81,385	48,010	31,416	10,971	1,507	531,090
Estimated Total No. of Employees 20 years of age and over ..	377,510	248,025	135,682	75,914	73,190	35,897	2,011	948,239
Percent. of Members on Estimated Total No. Employees ..	60.2	52.7	60.0	63.2	42.9	30.6	74.9	56.0
FEMALES.								
No. of Members of Unions ..	16,079	21,359	6,352	3,549	2,345	929	52	50,665
Estimated Total No. of Employees 20 years of age and over ..	88,189	81,044	27,943	19,862	13,343	7,824	96	238,301
Percent. of Members on Estimated Total No. Employees ..	18.2	26.4	22.7	17.9	17.6	11.9	54.2	21.3

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* Corresponding figures for 1912 will be found in Report No. 2, page 12; for 1913, in Report No. 5, page 10; for 1914 and 1915 in Report No. 6, page 11; for 1916 Report No. 7, page 343, and for 1917 Report No. 8, page 13.

It may be seen that the male membership in 1918 was 531,090, and female membership 50,665, representing percentages upon the total membership of 91.3 and 8.7 respectively. Of the 50,665 female members of trade unions in 1918, 19,218, or 37.9 per cent., are included in Groups IV. (Clothing, Hats, Boots, etc.), and 11,916, or 23.5 per cent., in Group III. (Food, Drink, etc.), and XIII. (Domestic, Hotels, etc.).

6. **Classification of Trade Unions in Commonwealth according to Number of Members, 1912 to 1918.**—The following table shews the number and membership of all trade unions in the Commonwealth in 1912, 1913, 1914, 1915, 1916, 1917, and 1918 respectively, classified according to size. In this table inter-State unions are, of course, only counted once:—

Classification of Trade Unions in Commonwealth according to Number of Members at end of Years 1912 to 1918.

Classification.	10,000 and over.	5000 and under 10,000.	2000 and under 5000.	1000 and under 2000.	500 and under 1000.	300 and under 500.	200 and under 300.	100 and under 200.	50 and under 100.	Under 50.	Total.
					NUMBER OF UNIONS.						
1912 ..	7	15	26	43	32	32	39	67	72	75	408
1913 ..	9	17	26	35	45	47	26	81	84	62	432
1914 ..	8	17	29	39	52	45	32	72	67	69	430
1915 ..	9	16	30	41	44	35	34	69	63	74	415
1916 ..	11	16	35	33	47	43	25	53	59	70	392
1917 ..	9	19	27	36	48	44	28	48	63	67	389
1918 ..	11	15	33	39	51	38	19	66	65	57	394
					MEMBERSHIP.						
1912 ..	132,335	99,718	79,614	60,558	22,585	12,234	9,483	9,323	5,106	2,268	433,224
1913 ..	176,188	121,710	75,357	48,938	32,154	17,994	6,406	11,326	5,914	1,938	497,925
1914 ..	176,157	125,021	84,359	59,350	37 141	16,439	7,898	10,141	4,572	2,193	523,271
1915 ..	186,755	122,009	89,295	61,264	30,651	13,405	8,308	9,408	4,537	2,399	528,031
1916 ..	219,990	113,587	95,143	49,170	32,429	16,657	6,003	7,091	4,326	2,160	546,556
1917 ..	217,002	144,198	78,019	52,258	34,944	17,433	7,032	6,742	4,550	2,009	564,187
1918 ..	259,824	103,152	91,656	54,119	37,784	14,840	4,599	9,502	4,623	1,656	581,755
					PERCENTAGE OF TOTAL MEMBERSHIP.						
1912 ..	30.5	23.0	18.4	14.0	5.2	2.8	2.2	2.2	1.2	0.5	100.0
1913 ..	35.4	24.4	15.1	9.8	6.5	3.6	1.3	2.3	1.2	0.4	100.0
1914 ..	33.6	23.9	16.1	11.4	7.1	3.2	1.5	1.9	0.9	0.4	100.0
1915 ..	35.3	23.1	16.9	11.6	5.8	2.5	1.6	1.8	0.9	0.5	100.0
1916 ..	40.3	20.8	17.4	9.0	5.9	3.0	1.1	1.3	0.8	0.4	100.0
1917 ..	38.5	25.6	13.8	9.3	6.2	3.1	1.2	1.1	0.8	0.4	100.0
1918 ..	44.7	17.7	15.8	9.3	6.5	2.5	0.8	1.6	0.8	0.3	100.0

It will be seen that at the end of the year 1912 the seven largest unions (in the group 10,000 and over) comprised 132,335 members, or no less than 30.5 per cent. of the total membership of all unions. In 1913 there were nine unions; in 1914 eight unions, and in 1915 nine unions, in this group. In each of the years specified their membership comprised over 30.0 per cent. of the total membership of all unions. In 1916 the 11 unions in this group comprised no less than 40.3 per cent.; in 1917 the 9 unions comprised 38.5 per cent.; and in 1918 the 11 unions comprised 44.7 per cent. of the total membership of all unions.

The membership of the unions in the next group (5000, and under 10,000) comprised in each year specified, excepting 1918, over 20 per cent. of the total membership of all unions. The percentage in these two groups together amounted to 53.5 in 1912; 59.8 in 1913; 57.5 in 1914; 58.4 in 1915; 61.1 in 1916; 64.1 in 1917; and 62.4 in 1918 of the total membership in those years.

7. **Number and Membership of Interstate or Federated Trade Unions in Commonwealth at end of Years 1912 to 1918.**—The following table gives particulars of inter-State or federated trade unions having branches in two or more States. The figures given include inter-State unions registered under the Commonwealth Conciliation and Arbitration Act, as well as federated unions which are not so registered:—

Number and Membership of Interstate or Federated Trade Unions in Commonwealth at the end of Years 1912 to 1918.

PARTICULARS.	UNIONS OPERATING IN—					TOTAL.
	2 States.	3 States.	4 States.	*5 States.	†6 States.	
Number of Unions, 1912	20	11	17	14	10	72
" " 1913	16	11	16	18	17	78
" " 1914	18	9	14	16	22	79
" " 1915	17	11	14	16	23	81
" " 1916	15	11	12	18	25	81
" " 1917	18	11	18	14	33	94
" " 1918	14	17	13	18	33	95
Number of Members, 1912	31,358	18,147	55,517	43,548	131,201	279,771
" " 1913	31,063	13,389	73,186	54,202	180,597	352,437
" " 1914	26,423	7,853	64,040	67,427	190,084	355,827
" " 1915	21,709	10,425	73,760	76,633	197,310	379,837
" " 1916	18,185	12,739	56,717	101,848	222,794	412,283
" " 1917	18,286	18,649	76,981	90,068	252,319	456,303
" " 1918	14,709	35,885	58,376	95,042	265,135	469,147

* One union in this group has, in addition to branches in each of five States, a branch in the Northern Territory.

† Three unions in this group have, in addition to branches in each of the six States, a branch in the Northern Territory.

The development of trade union organisation of an inter-State character is reflected in the figures given in the above table. The number of organisations operating in two or more States has increased from 72 in 1912 to 95 in 1918, and the percentage of the membership of such organisations on the total membership of all organisations has increased from 64.6 per cent. to over 80 per cent. during the same period.

8. **Central Labour Organisations.**—In each of the metropolitan towns, as well as in a number of other industrial centres, delegate organisations, consisting of representatives from a group of trade unions, have been established. Their revenue is raised by means of a per capita tax on the members of each affiliated union. In most of the towns where such central organisations exist, the majority of the local unions are affiliated with the central organisation, which is usually known as the Labour or Trades Hall Council, or the Labour Federation. In Western Australia a unified system of organisation extends over the industrial centres throughout the State, and there is a provincial branch of the Australian Labour Federation, having a central council and executive, and metropolitan and branch district councils, to which the local bodies are affiliated. The central council, on which all district councils are represented, meets periodically. In the other States, however, the organisation is not so close, and though provision usually exists in the rules of the central council at the capital town of each State for the organisation of district councils, or for the representation on the central council of the local councils in the smaller industrial centres of the State, the councils in each State are, as a matter of fact, independent bodies. The table shews the number of metropolitan and district or local labour councils, together with the number of unions and branches of unions affiliated therewith, in each State at the end of the years 1914 to 1918.

Central Labour Organisations—Number and Unions Affiliated at the end of the Years 1914 to 1918.

Particulars.		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
No. of Councils ..	1914	4	5	1	4	11	1	26
	1915	3	5	1	4	10	1	24
	1916	4	5	4	4	10	1	28
	1917	4	5	2	4	11	1	27
	1918	4	5	5	3	10	1	28
No. of Unions and Branch Unions Affiliated	1914	164	196	18	84	182	24	668
	1915	150	198	26	89	183	22	668
	1916	169	205	67	90	181	20	732
	1917	163	192	46	82	171	18	672
	1918	143	188	58	80	159	18	646

The figures given in the above table as to number of unions do not necessarily represent separate unions, since the branches of a large union may be affiliated to the local trades councils in the several towns in which they are represented.

Between the trade union and the central organisation of unions may be classed certain State or district councils, organised on trade lines and composed of delegates from separate unions, the interests of the members of which are closely connected by reason of the occupations of their members, such, for example, as delegate councils of bakers, bread carters and mill employees, or of unions connected directly or indirectly with the iron, steel or brass trades, or with the building trades.

The Brisbane District Council of the Australian Labour Federation ceased to exist when the Australian Labour Federation became absorbed in the Australian Workers' Union. A new Labour Council, however, has been organised, to which 58 trade unions are now affiliated.

9. **Particulars of Unions Registered under Commonwealth Conciliation and Arbitration Act, classified according to Industrial Groups, at end of Year, 1918.**—Under Part V. of the Commonwealth Conciliation and Arbitration Act any association of not less than 100 employees in any industry may be registered.† The following table gives particulars of registered unions at the end of the year 1918. Registered unions include both inter-State associations and associations operating within one State only.

Particulars of Unions Registered under Commonwealth Conciliation and Arbitration Act, classified according to Industrial Groups, at end of Year 1918.

Industrial Group.	No. of Unions.	Membership.	Industrial Group.	No. of Unions.	Membership.
I. Wood, Furniture, etc. ..	3	17,352	IX. Railway & Tramway Services	3	4,152
II. Engineering, Metal Works, etc	12	41,351	X. Other Land Transport ..	3	6,835
III. Food, Drink, Tobacco, etc.	12	30,442	XI. Shipping, etc.	8	43,274
IV. Clothing, Hats, Boots, etc.	5	29,583	XII. Pastoral, Agricultural, etc. ..	2	*
V. Books, Printing, etc. ..	3	6,179	XIII. Domestic, Hotels, etc. ..	3	5,582
VI. Other Manufacturing ..	19	21,857	XIV. Miscellaneous	28	157,260
VII. Building	6	27,427			
VIII. Mining, Quarries, etc. ..	3	31,493	TOTAL	110	422,787

* Not available for publication separately, included in Group XIV. † Under the Arbitration (Public Service) Act an association of less than 100 employees may be registered as an organisation, provided its members comprise at least three-fifths of all persons engaged in that industry in the service.

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The figures given in the above table regarding unions registered under the Commonwealth Act are not comparable with those given in the table in paragraph 8 hereof regarding all inter-State and federated unions. A few federated unions included in the table in paragraph 8 are not registered under the Commonwealth Act, while, on the other hand, a number of purely State organisations registered under the Act are, of course, not included in the table in paragraph 8.

SECTION III.—FLUCTUATIONS IN EMPLOYMENT AND UNEMPLOYMENT.

1. **General.**—In Section X. of this Report, the method of index numbers is applied to trace variations in rates of wages in the Commonwealth since 1891, while in Sections IV., V., VII., and VIII. variations in retail prices and purchasing-power of money, and in wholesale and import and export prices are shewn by a similar method. In order to elucidate further the progress of events, it is desirable to supplement that information, so far as practicable, by furnishing index-numbers which disclose the fluctuations in employment and unemployment.

Employment index-numbers serve not only to throw light upon the figures shewing the course of wages, prices, and purchasing-power of money, inasmuch as they indicate the relative loss of time through lack of employment, but also to furnish a useful measure of the fluctuations of industrial activity regarded as a whole. In this connection, it may be said that while export statistics relate only to the margin of national production which is sent overseas, statistics of employment measure, on the other hand, the relative activity or depression of the whole of the industries to which they relate, including, that is, production for the home market as well as for export.

2. **Number Unemployed in Various Industries, 1908 to 1918.**—The table herewith shews for the end of each year specified:—

(a) The number of unions for which returns as to unemployment are available.

(b) The number of members of such unions.

(c) The number of members unemployed, and

(d) The percentage of the number of members unemployed (c) on the total membership (b).

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Unemployment in Trades Unions, Number and Membership of Unions for which Returns available, and Number and Percentage Unemployed, 1908 to 1918.*

Particulars.	1908.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
No. of Unions for which returns available ..	68	109	160	464	465	439	465	470	459	475
Membership	18,685	32,995	67,961	224,023	251,207	250,716	273,149	292,051	296937	308,850
No. of Unemployed at end of year ..	1,117	1,857	3,171	12,441	13,430	27,610	18,489	19,562	21,989	16,919
Percentage of Unemployed at end of year	6.0	5.6	4.7	5.6	5.3	11.0	6.8	6.7	7.4	5.5

* See graph on page 6.

NOTE.—The figures given in this and subsequent tables of this section do not include persons out of work through strikes or lockouts.

For reasons indicated on pages 16 to 18 of Labour Report No. 2 this table does not furnish a complete register of unemployment. Nevertheless for the purpose of making comparisons, and shewing tendencies over a period of years, the percentages returned as unemployed, though not exact, are the most satisfactory available. The significance of the figures shewing the percentage of unemployment may be better understood by reference to the graph on page 6.

3. **Employment Index-Numbers, 1891 to 1918.**— For greater convenience of examination and comparison with other statistical data, the percentages of unemployed have been subtracted from 100, so as to shew the percentage of members *not returned as unemployed*, and the results computed in the form of index-numbers with the year 1911 as base (= 1000).

Percentage of Members of Trade Unions not Returned as Unemployed, and Employment Index-Numbers for the years specified from 1891 to 1918.

Particulars.	1891.	1901.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
Percentage *not* returned as Unemployed	90.7	93.4	94.2	94.4	95.3	94.4	94.7	89.0	93.2	93.3	92.6	94.5
Employment Index-No., 1911 = 1000	952	980	988	990	1,000	991	994	934	978	979	972	992

The figures given in the first line of the above table indicate the percentage of full time worked on the average in each year, on the assumption that the unemployment returns for the end of the year are representative of the state of unemployment throughout the year. The figures in the second line shew (on the same assumption) the relative state of employment in each year, compared with the year 1911, the state of employment being measured, of course, by the percentage of full time worked.

4. **Unemployment in Different Industries, 1917 and 1918.** —The results of the quarterly investigations as to unemployment in 1913, 1914, 1915, 1916, 1917, and 1918 have been published in Labour Bulletins, Nos. 1 to 18, and in the Quarterly Summary of Statistics,

Nos. 70 to 75. The following table shews for various industrial groups the percentages of members of trade unions returned as unemployed during each of the four quarters of 1917 and 1918. The percentage of unemployed at the end of 1912 is also given. The figures do not include persons out of work through strikes or lockouts.

Percentage of Unemployment† in Different Industries at the end of 1912 and Quarterly for 1917 and 1918.*

INDUSTRIAL GROUP.	1912. End of Year.	1917.				1918.			
		1st quar. (Jan. to Mar.)	2nd quar. (April to June.)	3rd quar. (July to Sept.)	4th quar. (Oct. to Dec.)	1st quar. (Jan. to Mar.)	2nd quar. (April to June.)	3rd quar. (July to Sept.)	4th quar. (Oct. to Dec.)
I. Wood Furniture, etc. ..	3.7	4.3	4.1	5.9	10.1	7.4	2.3	3.4	2.3
II. Engineering, Metal Works, etc	7.4	8.5	7.9	8.3	11.2	7.5	7.8	6.8	6.7
III. Food, Drink, Tobacco, etc.	7.3	4.9	6.7	9.0	9.7	4.7	6.7	9.6	7.2
IV Clothing, Hats, Boots, etc.	6.3	4.5	2.4	3.5	4.2	3.4	1.7	2.8	4.3
V. Books, Printing, etc. ..	2.8	4.7	3.9	3.0	2.8	3.6	3.5	2.6	2.0
VI. Other Manufacturing ..	6.9	6.1	5.3	6.8	8.0	2.9	5.9	5.0	4.9
VII. Building	5.5	11.9	11.3	11.7	8.3	6.0	4.2	3.5	2.8
VIII. Mining, Quarries, etc. ..	5.6	5.3	5.0	6.5	7.4	7.7	11.6	12.2	5.9
X. Other Land Transport ..	1.1	5.8	2.0	3.9	2.6	4.0	3.5	2.1	1.5
IX., XI., XII., XIII., and XIV. Other and Miscellaneous ..	5.4	9.3	6.8	6.3	6.4	5.6	7.3	6.5	7.3
TOTAL	5.6	7.5	6.3	7.1	7.4	5.5	6.2	6.1	5.5

* Figures for 1916 were given in Labour Report No. 8, p. 19.

† Not including persons out of work through strikes or lockouts.

5. **Unemployment in each State, 1917 and 1918.**—The following table shews for each State the percentage of members of trade unions returned as unemployed during each quarter of 1917 and 1918. The percentage unemployed at the end of 1912 is also given. In making any deductions from or drawing any comparisons between the results shewn in the following table, it must be borne in mind that the classes of industry in the several States for which data are obtained are not identical.

Percentage of Unemployment† in each State at the end of Year 1912 and Quarterly for 1917 and 1918.*

STATE.	1912. end of Year.	1917.				1918.			
		1st quar. (Jan. to Mar.)	2nd quar. (April to June.)	3rd quar. (July to Sept.)	4th quar. (Oct. to Dec).	1st quar. (Jan. to Mar.)	2nd quar (April to June).	3rd quar. (July to Sept.)	4th quar. (Oct to Dec.)
New South Wales	5.0	6.5	5.5	5.9	6.4	5.0	4.9	6.5	3.6
Victoria	6.7	9.0	9.4	11.4	10.6	6.1	7.3	6.4	6.2
Queensland	4.6	10.6	5.1	4.9	7.5	8.0	10.4	7.0	11.6
South Australia	5.1	5.1	4.9	3.5	2.6	2.8	2.9	2.7	2.2
Western Australia	5.8	5.5	4.1	5.6	5.1	5.0	5.4	5.3	4.2
Tasmania	3.4	3.6	2.1	3.4	2.8	3.4	2.0	2.6	1.7
COMMONWEALTH	5.6	7.5	6.3	7.1	7.4	5.5	6.2	6.1	5.5

* Figures for 1916, were given in Labour Report No. 8, p. 19.

† Not including persons out of work through strikes or lockouts.

6. **Causes of Unemployment, 1916, 1917 and 1918.**—The following table gives, for the Commonwealth, the membership of the unions reporting, and the number and percentage of those unemployed under three main heads for the four quarters of 1916, 1917 and 1918 :—

Unemployment, according to Causes, in each Quarter of 1916, 1917 and 1918.*

Particulars.	No. of Members of Unions reporting.	Number and Percentage Unemployed through—							
		Lack of Work.		Sickness and Accident.		Other Causes.		Total.	
		No.	%	No.	%	No.	%	No.	%
1916.									
1st quarter (Jan. to March)	291,525	14,808	5.1	1,848	0.6	522	0.2	17,178	5.9
2nd quarter (April to June)	279,909	12,178	4.4	1,936	0.7	606	0.2	14,720	5.3
3rd quarter (July to September) ..	269,961	11,674	4.3	2,130	0.8	587	0.2	14,391	5.3
4th quarter (Oct. to December) ..	278,759	15,307	5.5	2,211	0.8	1,533	0.5	19,051	6.8
1917.									
1st quarter (Jan. to March)	286,594	19,378	6.8	1,805	0.6	471	0.2	21,654	7.6
2nd quarter (April to June)	297,295	15,786	5.3	2,312	0.8	626	0.2	18,724	6.3
3rd quarter (July to September)	234,836	14,443	6.1	1,665	0.7	429	0.2	16,537	7.0
4th quarter (Oct. to December)	283,799	17,791	6.3	2,214	0.8	822	0.3	20,827	7.4
1918.									
1st quarter (Jan. to March)	272,594	11,372	4.2	1,999	0.7	597	0.2	13,968	5.1
2nd quarter (April to June)	272,962	11,830	4.3	2,143	0.8	587	0.2	14,569	5.3
3rd quarter (July to September	291,942	14,559	5.0	2,901	1.0	747	0.2	18,207	6.2
4th quarter (Oct. to December)	303 528	12,871	4.2	2,889	1.0	886	0.3	16,646	5.5

* For the corresponding figures for 1915, see Report No. 7, p. 352.

method, is, as said, the only unequivocal method, and technically is perfectly satisfactory, while any other method is technically less satisfactory, or introduces some change of regimen. Variations in quantity or in the items of the composite unit introduce ambiguity, for the resulting change in the price of the composite unit is partly due to change of the unit and partly due to change of the prices of its constituent items.

Notwithstanding the very explicit statement of the purpose and scope of these investigations given in the various Labour Reports, evidence is continually coming to hand that misunderstanding in regard thereto is still prevalent. Many persons, having noticed the obvious fact that a different regimen gives a very different aggregate cost, have imagined that deductions as to the "purchasing-power of money" vary enormously with change of regimen. This phase of the matter has been dealt with fully in previous publications of the Labour and Industrial Branch, and in particular in Labour Bulletin No. 14, pp. 127 to 130, published in October, 1916. It is there demonstrated, by basing the deductions upon various widely differing regimens, that the mode of investigating the purchasing-power of money adopted is not vitiated by employing a fixed regimen; on the contrary, it has reached a high degree of precision as compared with any alternative which has been suggested. Again, it should be observed that any proposed change of regimen must be freed from the effect of a change in the standard of living, otherwise the results are confused, that is, they embody two things, viz.: (*a*) change in price, and (*b*) change in standard of living. The conclusion therein arrived at may be repeated here, viz.: That once a standard of living, or living wage, has been fixed, the tables published by the Commonwealth Statistician can be legitimately used as shewing the variations in the cost of living. The only appropriate criticism which could be applicable would be that the regimen used as a basis for estimation has ceased to be representative of the usage of the community to such an extent that the calculations founded on it are misleading. If then, under these circumstances a change is made, certain safeguards are necessary which have been indicated in Labour Report No, 1, Appendixes VIII. and IX., and which have further been dealt with in Appendix I. of this Report.

3. Commodities and Requirements Included.—The 47 items of expenditure included are divided into four groups, viz., (i.) groceries and bread, (ii.) dairy produce, (iii.) meat, and (iv.) house-rent. These items cover about 60 per cent. of the total expenditure of a normal family. There are very cogent reasons for the restriction of the inquiry to the items mentioned. If the comparisons are to be satisfactory, confusion must not arise between changes in standard of living and changes arising from a variation of the purchasing-power of money. In order to avoid such confusion the items selected are such as are sensibly identical and identifiable in the various localities. The most important group of expenditure which is not included is clothing, the cost of which amounts to about 13 per cent. of the total expenditure. Owing to influences of individual taste, fashion, and the great variety of production, articles included in this group are practically not readily comparable nor identifiable. As regards fuel and light, the cost of which amounts to about 4 per cent. of total expenditure, while these commodities are comparable and identifiable, the usage or relative consumption in the towns included in the inquiries varies

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to such an extent that their inclusion on an assumed constant regimen would tend to produce a fictitious result in so far as relative cost of living is concerned. Thus the prices of clothing and of fuel and light cannot be unequivocally compared.

While it is true that insurance premiums and contributions to benefit societies have probably not increased, it must be borne in mind that the purchasing-power of money-benefits to be derived is reduced in accordance with the general depreciation in the purchasing-power of money, and in order to obtain benefits of the same net value as before, the premiums and contributions would have to be increased *pro rata*.

It will be seen, therefore, that notwithstanding the exclusion of various items of expenditure, the results obtained based on the four groups referred to, can be vitiated only in an abnormal state of affairs, and ordinarily only to a very slight extent. It is to be remembered also that prices of commodities which cannot be included because they do not lend themselves to exact specification, tend, *on the whole*, to move in the same direction as those included, and approximately to the same extent. Thus, as a matter of fact, a more reliable result is obtained than would be the case if the investigation endeavoured to cover the whole of the items of expenditure. In short, this method of measuring the variations in the purchasing-power of money, though *theoretically* subject to obvious limitations, is *practically* the best general measure.

The question of procedure in abnormal circumstances was sufficiently referred to in Report No. 6, pp. 20 to 22.

The following tabular statement gives particulars of the commodities and items included, the units of measurement for which prices are collected, and the mass-units shewing the relative extent to which each item is used or consumed.

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Retail Prices.—Table shewing Commodities, etc., included in Investigation, Units of Measurement, and "Mass-Units."

Commodity.	Unit.	"Mass Unit."
GROUP I.—GROCERIES (INCLUDING BREAD).		
1. Bread	2 lb. loaf	468
2. Flour, ordinary ..	25 lb. bags	11
3. Tea	lb.	30
4. Coffee	,,	2
5. Sugar	,,	460
6. Rice	,,	50
7. Sago	,,	8
8. Jam	,,	78
9. Oatmeal	,,	35
10. Raisins	,,	14
11. Currants	,,	14
12. Starch	,,	1
13. Blue	doz. sqs.	½
14. Candles	lb.	16
15. Soap	,,	64
16. Potatoes	14 lbs.	64
17. Onions	lb.	68
18. Kerosene	gallon	17
GROUP II.—DAIRY PRODUCTS.		
19. Milk	quart	300
20. Butter	lb.	95
21. Cheese	,,	15
22. Eggs	dozen	18
23. Bacon, middles ..	lb.	16
24. ,, shoulder ..	,,	16
25. Ham	,,	8
GROUP III.—MEAT.		
26. Beef, sirloin	lb.	67
27. ,, rib	,,	82
28. ,, flank	,,	12
29. ,, shin	,,	14
30. ,, steak, rump	,,	24
31. ,, ,, shoulder ..	,,	53
32. ,, ,, stewing ..	,,	53
33. ,, corned round	,,	39
34. ,, brisket, with bone ..	,,	11
35. ,, ,, without bone	,,	32
36. Mutton, leg	,,	92
37. ,, shoulder	,,	62
38. ,, loin	,,	30
39. ,, neck	,,	40
40. ,, chops, loin	,,	62
41. ,, ,, leg	,,	15
42. ,, ,, neck	,,	31
43. Pork, leg	,,	9½
44. ,, loin	,,	8½
45. ,, belly	,,	10½
46. ,, chops	,,	8½
GROUP IV.—HOUSE RENT.		
47. House Rent	per week	46½

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It may here be pointed out that both in the collection of the data and computation of the results great care is exercised, and that there is reason to believe that the price-indexes are based upon more extensive data than any which have been obtained in similar investigations in other parts of the world.

In order to give some idea of the thorough manner in which the work has been performed, it may be mentioned that with regard to the 46 commodities and house rent included in this inquiry, nearly 10,500 prices and quotations are received and tabulated for the 30 towns dealt with each month. This amounts to 126,000 per annum. The complete scheme in regard to the determination of the price-indexes shewing the purchasing-power of money provides for the collection and analysis of over 140,000 separate prices and quotations each year, but owing to the difficulty in getting in all the returns regularly it was necessary to provide for a larger number of returns than was actually required.

When it is understood that this inquiry goes back for the capital towns as far as 1901, and the wholesale price inquiry (80 commodities) as far as 1871, some idea may be gathered as to the magnitude of the work involved. All the returns received are carefully examined, and in cases where the accuracy of any price or quotation is open to doubt, special inquiries are made from the person furnishing the quotation. Each return as received is compared with the previous return from the same dealer and with all other returns received for the same period. It is believed, therefore, that a high degree of accuracy is obtained in the investigations, and it is evident that personal impressions or results, not based upon an equally systematic and equally extensive inquiry, cannot be allowed weight.

4. Other Investigations as to Price-Indexes and Cost of Living.—While this report is concerned principally with variations in price-indexes on the lines indicated in the preceding paragraphs, it will not be out of place to refer briefly to other cognate investigations which have been carried out. These consist, as already indicated, of (i.) Annual Variations in the price index-numbers for 150 Towns, and (ii.) the cost of living according to Householders' Budget Inquiries.

(i.) *Price-Indexes in* 150 *Towns.*—The investigation as to variation in price-indexes in 100 towns was carried out for the months of November 1913 and November 1914. For subsequent years the number of towns from which returns are collected annually has been increased from 100 to 150. The results of the November 1913 investigation were published in Labour Bulletin No. 5, pp. 26 to 33; of the November 1914 investigation in Labour Bulletin No. 8, pp. 231 to 240; of the November 1915 investigation in Labour Bulletin No. 12, pp. 352 to 361; of the November 1916 investigation in Labour Report No. 7, pp. 393 to 402, of the November 1917 investigation in Labour Report No. 8, pp. 47 to 57, and of November 1918 in the present issue, pp. 52 to 61. Prior to 1912 investigations were made concerning the price-indexes in the capital towns only, but during 1912 and subsequent years these investigations have been extended to 30 towns. On page 61 hereinafter comparisons are made to test the accuracy with which the results obtained from these inquiries reflect the conditions obtaining throughout the States and Commonwealth.

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It will be seen on examination that the table reveals the fact that there is but little variation in the results obtained from the different sources indicated. This approximation between the various results indicates that the index-numbers published for the capital towns only, for the years index-numbers published for the capital towns only, for the years prior to 1912 and for the 30 towns for 1912 and subsequent years, probably reflect, with a substantial degree of accuracy, the variations in the purchasing-power of money, not only in each State separately, but also throughout the Commonwealth as a whole.

(ii.) *Householders' Budget Inquiries.*—The first of these was held in 1910-11, and covered a period of twelve months. The results of that investigation were published in December, 1911.* A second was held during 1913 for the month of November only. The results of this second investigation are given in a special report, entitled "Labour Report, No. 4, Expenditure on Living in the Commonwealth, November, 1913."

5. Purchasing-Power of Money, General Results of Investigation in each Metropolitan Town, 1901 to 1918.—Index-numbers, computed separately for each group of commodities (and for house-rent) included in the investigation, as well as the weighted average for all groups together, are shewn for the capital town of each State in the tables given hereinafter. In these tables the weighted aggregate expenditure for the whole of the capital towns in 1911 is taken as base (= 1,000), and the figures for that year (as well as other years) for the individual towns shew the relative purchasing-power of money as between the respective towns. The result is that the index-numbers given herein are comparable in all respects, that is to say, they shew not only the variations from year to year in each town, but they also furnish comparisons as to the relative cost in the different towns, either in any given year or as between one year and another and one town and another.

Retail Price Index-Numbers in Metropolitan Towns, 1901 to 1918.†

It is, of course, obvious that the index-numbers given in the separate parts of the table cannot be compared with each other in order to shew the relative cost of (say) house-rent, groceries and food, since the weighted average cost for the six towns taken together in 1911 in each case is made equal to 1000, although the cost is of course not the same.

Town.	1901.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
Group I.—Groceries.													
Sydney	876	904	1,009	1,015	1,028	1,018	1,151	1,106	1,112	1,281	1,329	1,320	1,393
Melbourne ..	897	817	923	895	939	924	1,061	953	996	1,222	1,240	1,188	1,263
Brisbane ..	1,011	969	1,045	1,039	1,054	1,087	1,195	1,110	1,076	1,331	1,315	1,323	1,406
Adelaide ..	949	903	944	991	972	958	1,138	1,039	1,061	1,310	1,274	1,210	1,344
Perth	1,006	1,013	1,038	1,033	1,095	1,276	1,186	1,073	1,113	1,351	1,345	1,329	1,394
Hobart	935	888	960	1,018	1,011	1,003	1,169	1,061	1,070	1,250	1,236	1,263	1,341
Weighted Average*	912	885	975	974	997	**1,000**	1,124	1,043	1,062	1,272	1,279	1,261	1,342

† See footnote on next page.

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* See Report on an "Inquiry into the Cost of Living in Australia, 1910-11," by G. H. Knibbs, C.M.G., etc., December, 1911. Owing to the small number of budgets returned, the deductions and tabulations based thereon are necessarily restricted.

Retail Price Index-Numbers in Metropolitan Towns, 1901 to 1918†—*continued.*

TOWN.	1901.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
GROUP II.—DAIRY PRODUCE.													
Sydney	881	932	1,093	1,038	976	971	1,098	1,095	1,110	1,221	1,291	1,319	1,358
Melbourne ..	969	967	1,066	989	976	959	1,077	1,019	1,075	1,350	1,338	1,271	1,325
Brisbane ..	833	837	953	906	973	983	1,055	1,008	995	1,277	1,287	1,294	1,334
Adelaide ..	975	928	1,068	1,028	1,017	1,103	1,203	1,167	1,194	1,360	1,283	1,228	1,315
Perth	1,290	1,200	1,289	1,251	1,238	1,241	1,320	1,262	1,244	1,475	1,434	1,406	1,427
Hobart	931	955	1,015	1,017	982	994	1,102	1,109	1,177	1,439	1,334	1,313	1,365
Weighted Average*	945	955	1,082	1,023	998	1,000	1,115	1,080	1,108	1,307	1,316	1,295	1,345
GROUP III.—MEAT.													
Sydney	1,025	994	1,000	982	977	959	1,107	1,213	1,280	1,778	2,091	2,154	2,020
Melbourne ..	1,077	1,067	1,043	998	978	929	1,123	1,149	1,270	1,800	2,027	1,949	1,963
Brisbane ..	1,026	1,024	1,062	967	936	935	991	965	1,169	1,549	1,766	1,667	1,819
Adelaide ..	1,221	1,059	1,060	1,081	1,032	1,037	1,130	1,206	1,502	1,930	2,240	2,079	2,169
Perth	1,378	1,511	1,482	1,479	1,535	1,577	1,643	1,607	1,688	1,722	1,997	1,913	1,708
Hobart	1,225	1,279	1,262	1,303	1,276	1,221	1,321	1,400	1,493	1,789	2,217	2,274	2,427
Weighted Average*	1,101	1,074	1,069	1,040	1,024	1,000	1,144	1,198	1,323	1,781	2,056	2,022	1,992
GROUPS I., II., AND III. COMBINED.—GROCERIES AND FOOD.													
Sydney	917	936	1,030	1,012	1,000	989	1,124	1,131	1,156	1,396	1,520	1,540	1,549
Melbourne ..	965	925	995	949	960	935	1,082	1,024	1,091	1,411	1,462	1,412	1,466
Brisbane ..	965	947	1,023	983	1,000	1,018	1,102	1,042	1,078	1,373	1,426	1,406	1,495
Adelaide ..	1,028	951	1,010	1,025	1,001	1,020	1,154	1,119	1,215	1,487	1,532	1,445	1,554
Perth	1,184	1,197	1,226	1,212	1,251	1,346	1,345	1,267	1,302	1,483	1,542	1,505	1,486
Hobart	1,011	1,010	1,055	1,093	1,073	1,058	1,190	1,164	1,212	1,445	1,523	1,544	1,635
Weighted Average*	972	955	1,031	1,006	1,005	1,000	1,129	1,095	1,144	1,416	1,495	1,472	1,514
GROUP IV.—HOUSE RENT.													
Sydney	858	911	922	955	988	1,090	1,183	1,246	1,279	1,220	1,212	1,215	1,252
Melbourne ..	733	804	828	842	916	970	1,016	1,089	1,126	1,085	1,089	1,124	1,180
Brisbane ..	488	575	616	662	700	767	804	863	882	859	847	859	905
Adelaide ..	629	812	872	940	1,018	1,112	1,160	1,125	1,040	932	930	959	1,022
Perth	801	684	678	667	696	810	880	928	914	848	869	874	885
Hobart	667	708	727	749	776	805	829	887	914	928	928	951	956
Weighted Average*	751	816	839	867	919	1,000	1,063	1,118	1,135	1,081	1,081	1,098	1,143
ALL GROUPS COMBINED.—GROCERIES, FOOD, AND HOUSE RENT.													
Sydney	893	926	986	989	995	1,031	1,148	1,178	1,206	1,323	1,394	1,406	1,427
Melbourne ..	870	875	926	905	942	950	1,055	1,051	1,105	1,277	1,309	1,294	1,349
Brisbane ..	769	794	856	851	877	915	979	969	997	1,162	1,188	1,181	1,262
Adelaide ..	864	894	953	990	1,008	1,058	1,157	1,121	1,143	1,259	1,285	1,245	1,335
Perth	1,027	986	1,001	988	1,023	1,126	1,154	1,128	1,143	1,222	1,266	1,246	1,239
Hobart	869	886	920	952	951	954	1,042	1,053	1,090	1,233	1,278	1,301	1,356
Weighted Average*	880	897	951	948	970	1,000	1,101	1,104	1,140	1,278	1,324	1,318	1,362

Note.—As to basis of index-numbers, see remarks on previous page.

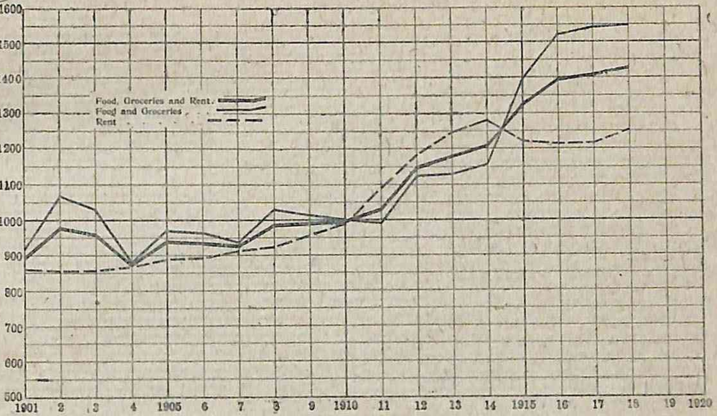
* For all capital towns.

† Index-numbers for years 1902-6 are given in Labour Report No 6, p. 26.

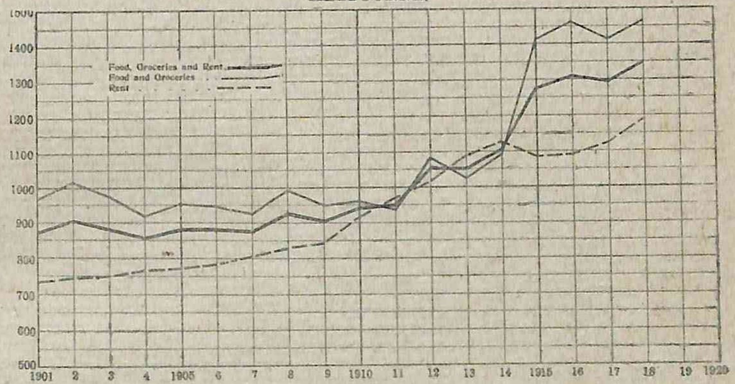
The index-numbers for the last three groups (groceries and food, house rent, and groceries, food, and house rent combined) are shewn for each capital town, together with the weighted average for all six towns combined in the graphs on pages 29 to 31. The paragraphs on pages 31 and 32 briefly indicate the general nature of the variations in each group.

GRAPHS SHEWING THE PURCHASING-POWER OF MONEY,* METROPOLITAN TOWNS, 1901 to 1918.

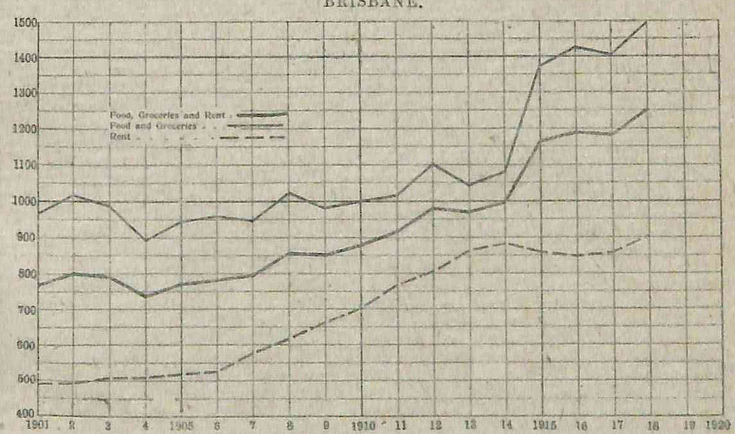
SYDNEY.



MELBOURNE.



BRISBANE.



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* Based upon a constant "composite unit."

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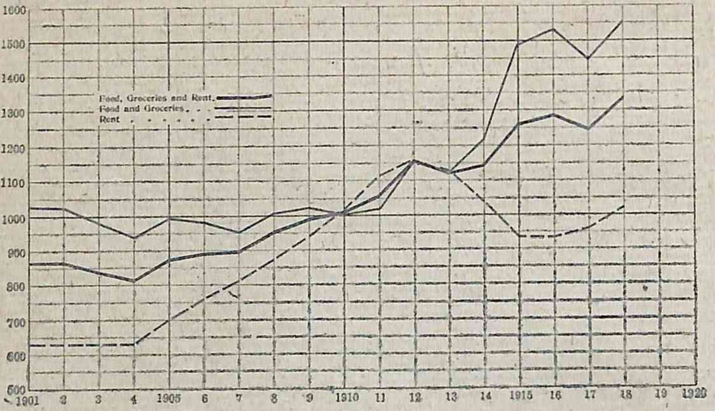
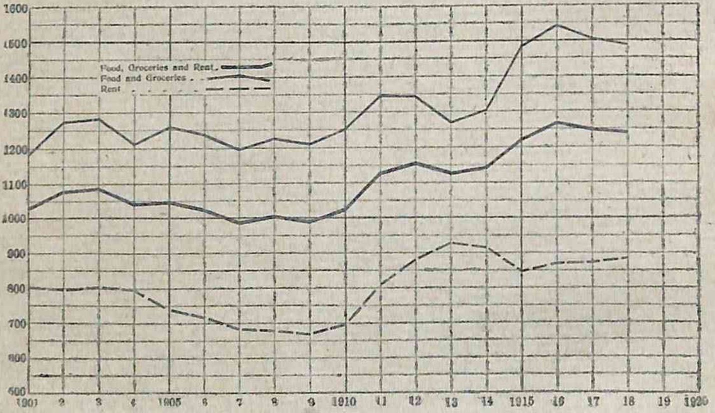
GRAPHS SHEWING PURCHASING-POWER OF MONEY, METROPOLITAN TOWNS, 1901 TO 1918.

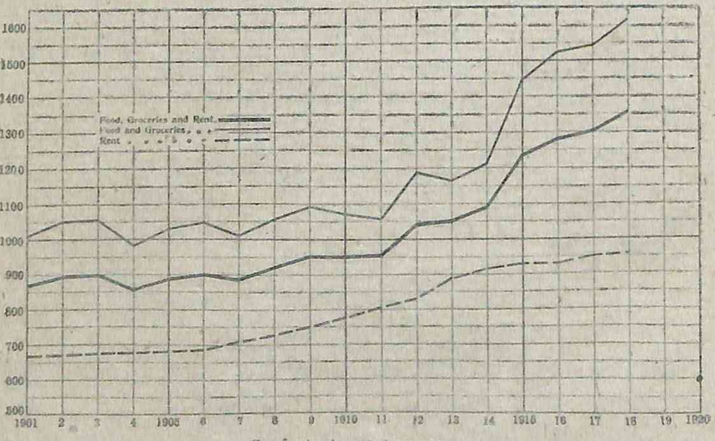
ADELAIDE.



PERTH.

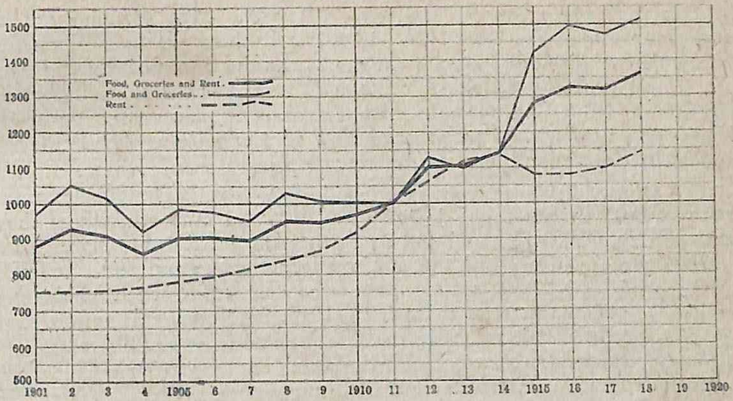


HOBART.



See footnote previous page.

PURCHASING-POWER OF MONEY.—WEIGHTED AVERAGE SIX CAPITAL TOWNS, 1901 to 1918.



See footnote p. 29.

(i.) *Groceries* (18 *Commodities*).—It may be seen that the index-number for this Group was higher in 1918 than in 1917 in all the capital towns, the aggregate effect upon the weighted average index-number shewing an increase. The increase in the weighted average index-number for all towns in 1918 compared with 1917 amounts to 6.4 per cent., compared with 1911 to 34.2 per cent., and compared with 1901 to 47.2 per cent. The average cost in 1918 of the commodities included in this group was greatest in Brisbane and least in Melbourne.

(ii.) *Dairy Produce* (7 *Commodities*).—The index-numbers for this group were higher for 1918 than for 1917 in all the towns. The weighted average index-number for all towns in 1918 was 3.9 per cent. higher than in 1917, 34.5 per cent. higher than in 1911, and 42.3 per cent. higher than in 1901. The average cost in 1918 of the commodities in this group was highest in Perth and lowest in Adelaide.

(iii.) *Meat* (21 *Cuts or Joints of Butcher's Meat*).—The index-numbers for this group were lower in 1918 than in 1917 in all the capital towns except Sydney and Perth. The weighted average index-number for all towns taken together in 1918 was 1.5 per cent. lower than in 1917; 99.2 per cent. higher than in 1911, and 80.9 per cent. higher than in 1901. The average cost of the commodities included in this group for 1918 was greatest in Hobart and least in Perth.

(iv.) *Groceries and Food* (*Groups I., II., and III. combined*).[*]—The index-numbers for this combined group shew the aggregate effect upon the purchasing-power-of-money index-numbers of movements in prices of commodities, apart from variations in house rent. There was an increase in 1918 compared with the immediately preceding year in all the towns except Perth. During the whole of the period covered by the table on page 28 the index-numbers were higher in Perth than in any other capital town up to and including 1914. The disparity between that town and the remaining towns was greater in the earlier years of the period, and less in the later years, and for 1915 the index-number for Perth, while still higher than for all the towns except Adelaide, shews less divergence from the weighted average than for any other year. In 1916 the index-number for Perth was again higher than for any other town, but in 1917 it was lower in that town than in Sydney or Hobart. In 1918 the index-number for Perth was lower than in all the towns except Melbourne. Taking the weighted average for all the towns the prices of the 46 items of food and groceries specified on page 25 were 2.9 per cent. higher in 1918 than in 1917, 51.4 per cent. higher than in 1911, and 55.9 per cent. higher than in 1901. The average cost of these items for 1918 was greatest in Hobart and least in Melbourne.

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[*] That is the "composite unit" upon which these index-numbers are computed.

(v.) *House Rent.*—Except in Adelaide, where rents remained stationary from 1901 to 1904, and declined in 1913, and in Perth, where they decreased from 1903 to 1907, and again in 1908-9 and 1914, there was a uniform increase in each of the metropolitan towns from 1901 to 1914. The abnormal conditions arising out of the war has resulted in entirely changed conditions for the years 1915, 1916, 1917 and 1918. It will be seen that for 1915 there was a decrease in the cost of housing accommodation in all the towns except Hobart, where there was a small increase. In 1916 Melbourne and Perth shew slight increases, Sydney, Brisbane and Adelaide slight decreases, while the index-number for Hobart was the same for 1916 as for 1915. In 1917 there was an increase in the average rentals in all the towns, and in 1918 there was a further increase. The weighted average index-number for 1918 is 4.1 per cent. higher than for 1917, 14.3 per cent. higher than in 1911, and 52.2 per cent. higher than in 1901. The greatest increase since 1901 has occurred in Brisbane (85.5 per cent.), followed in the order named by Adelaide (62.5 per cent.), Melbourne (61.0 per cent.), Sydney (45.9 per cent.), Hobart (43.3 per cent.), and Perth (10.5 per cent.).

(vi.) *Price Index-numbers for Food, Groceries and House Rent combined.*—The weighted average index-numbers for the combined expenditure upon the 46 items of food and groceries and housing accommodation shew an increase of 3.3 per cent. in 1918 compared with 1917, and 54.8 compared with 1901. Reference to the graph on page 31 will shew that the weighted average price index-number was lower in 1904 than in any other year during the period covered by the investigations. The index-number rose in 1905 and 1906, and fell in 1907. There was a substantial rise in 1908, followed by a slight decline in 1909. Further rises occurred in 1910 and 1911, and again in 1912, when the increase was very considerable (10.1 per cent.). The index-number for 1913 was practically the same as for 1912, but in 1914 there was a rise of 3.2 per cent., in 1915 of 12.1 per cent., and a further rise in 1916 of 3.6 per cent. The index-number for 1917 was 0.5 per cent. lower than for 1916. The index-number for 1918 shews a rise of 3.3 per cent., and is the highest recorded.

Compared with 1911, the base year of the period, the weighted average purchasing-power-of-money index-number shews an increase of 36.2 per cent. for 1918. It may further be seen that, except for the year 1909, from 1901 to 1912 inclusive, the index-number for Perth was higher than for any other capital town. In 1913, 1914, 1915, 1916, 1917, and 1918 the index-number for Sydney was the highest, and for 1918 the index-number for Perth was lower than for any other town. Attention has already been drawn in the quarterly Labour Bulletins to the fact that the increase in prices of food and groceries during 1915 was considerably less in Perth than in the remaining towns. The result of this is to alter the relative cost of food, groceries, and house-rent combined in the several towns.

6. Index-numbers Shewing Variations in Cost of Food, Groceries and House-rent, 1912 to 1918.—In the following tables, index-numbers are given shewing variations in the cost of food and groceries (46 commodities), in thirty of the more important towns throughout the Commonwealth at yearly and quarterly periods from 1912 to 1918. Index-numbers for food and groceries are also given for each month of 1918. In addition, index-numbers shewing for these years the quarterly and yearly variations in house rents and in the combined cost of food, groceries and house-rent, are given. As explained on pp. 31 and 32 of Labour Report No. 6, these are now computed to the same base as the index-numbers relating to the six capital cities, which go back to the year 1901 :—

Food and Groceries (46 Commodities), Index-Numbers for Each of Thirty Towns, with Weighted Average of Six Capital Towns in 1911 as Base (= 1000).

	N.S.W.—Index-Numbers.						Victoria—Index-Numbers.					
	Sydney.	Newcastle.	Broken Hill.	Goulburn.	Bathurst.	Weighted Average, N.S.W.	Melbourne.	Ballarat.	Bendigo.	Geelong.	Warrnambool.	Weighted Average, Victoria.
1912	1,124	1,134	1,352	1,128	1,083	1,134	1,082	1,110	1,112	1,086	1,057	1,086
1913	1,131	1,127	1,343	1,151	1,053	1,139	1,024	1,028	1,057	1,049	1,043	1,028
1914	1,156	1,142	1,383	1,174	1,094	1,164	1,091	1,086	1,098	1,099	1,074	1,091
1915	1,396	1,389	1,642	1,388	1,336	1,404	1,411	1,443	1,429	1,393	1,425	1,414
1916	1,520	1,508	1,810	1,532	1,466	1,530	1,462	1,466	1,453	1,464	1,466	1,462
1917	1,540	1,537	1,778	1,490	1,483	1,548	1,412	1,401	1,407	1,419	1,429	1,412
1918	1,549	1,564	1,752	1,526	1,504	1,557	1,466	1,441	1,443	1,445	1,493	1,463
1912 1st Qtr.	1,036	1,062	1,295	1,033	995	1,048	988	1,001	998	1,002	976	990
2nd ,,	1,090	1,099	1,328	1,070	1,056	1,100	1,069	1,056	1,102	1,056	1,042	1,069
3rd ,,	1,195	1,195	1,375	1,154	1,136	1,201	1,156	1,170	1,176	1,132	1,115	1,157
4th ,,	1,176	1,180	1,410	1,258	1,144	1,187	1,113	1,211	1,175	1,154	1,097	1,125
1913 1st Qtr.	1,136	1,124	1,329	1,189	1,060	1,143	1,036	1,055	1,101	1,085	1,051	1,043
2nd ,,	1,158	1,147	1,381	1,189	1,083	1,166	1,040	1,049	1,093	1,072	1,067	1,046
3rd ,,	1,128	1,124	1,321	1,118	1,036	1,134	1,021	1,013	1,037	1,030	1,037	1,022
4th ,,	1,104	1,112	1,343	1,109	1,034	1,114	999	996	999	1,009	1,018	999
1914 1st Qtr.	1,150	1,110	1,340	1,134	1,065	1,153	1,028	1,029	1,043	1,038	1,034	1,030
2nd ,,	1,163	1,153	1,423	1,201	1,121	1,173	1,118	1,090	1,115	1,133	1,073	1,116
3rd ,,	1,154	1,148	1,393	1,177	1,095	1,163	1,101	1,113	1,109	1,099	1,089	1,102
4th ,,	1,156	1,154	1,375	1,184	1,092	1,164	1,115	1,113	1,126	1,126	1,100	1,116
1915 1st Qtr.	1,231	1,233	1,488	1,222	1,182	1,241	1,186	1,202	1,201	1,178	1,162	1,187
2nd ,,	1,286	1,293	1,605	1,299	1,254	1,300	1,382	1,411	1,389	1,348	1,377	1,383
3rd ,,	1,536	1,506	1,721	1,518	1,453	1,540	1,584	1,627	1,634	1,557	1,628	1,590
4th ,,	1,530	1,522	1,753	1,512	1,455	1,537	1,491	1,531	1,493	1,489	1,533	1,494
1916 1st Qtr.	1,566	1,532	1,784	1,538	1,454	1,570	1,510	1,503	1,504	1,499	1,502	1,509
2nd ,,	1,517	1,496	1,827	1,545	1,479	1,528	1,483	1,501	1,479	1,506	1,484	1,485
3rd ,,	1,510	1,509	1,816	1,532	1,468	1,523	1,448	1,449	1,417	1,449	1,468	1,447
4th ,,	1,485	1,494	1,817	1,511	1,462	1,500	1,407	1,412	1,411	1,400	1,408	1,407
1917 1st Qtr.	1,499	1,518	1,804	1,522	1,467	1,513	1,395	1,400	1,395	1,405	1,415	1,396
2nd ,,	1,506	1,528	1,809	1,481	1,471	1,520	1,412	1,403	1,425	1,438	1,435	1,414
3rd ,,	1,588	1,548	1,743	1,460	1,487	1,587	1,419	1,392	1,415	1,418	1,435	1,417
4th ,,	1,566	1,555	1,754	1,496	1,506	1,571	1,422	1,408	1,395	1,416	1,430	1,419
1918 1st Qtr.	1,553	1,562	1,783	1,481	1,502	1,561	1,447	1,433	1,434	1,453	1,448	1,446
2nd ,,	1,549	1,574	1,828	1,526	1,521	1,561	1,478	1,450	1,483	1,475	1,506	1,477
3rd ,,	1,514	1,522	1,705	1,509	1,487	1,522	1,449	1,422	1,427	1,426	1,501	1,445
4th ,,	1,579	1,599	1,692	1,589	1,508	1,585	1,490	1,459	1,429	1,426	1,515	1,482
1918												
January ..	1,545	1,552	1,798	1,471	1,505	1,554	1,435	1,438	1,415	1,448	1,449	1,435
February ..	1,558	1,566	1,773	1,489	1,497	1,566	1,449	1,430	1,422	1,452	1,443	1,446
March ..	1,555	1,566	1,780	1,483	1,500	1,564	1,458	1,431	1,465	1,460	1,452	1,456
April ..	1,552	1,565	1,787	1,518	1,512	1,562	1,462	1,436	1,480	1,473	1,492	1,462
May ..	1,546	1,576	1,848	1,523	1,521	1,560	1,486	1,459	1,487	1,481	1,514	1,484
June ..	1,548	1,581	1,850	1,537	1,529	1,562	1,486	1,456	1,482	1,473	1,514	1,484
July ..	1,539	1,565	1,788	1,527	1,516	1,551	1,467	1,452	1,464	1,469	1,514	1,466
August ..	1,501	1,504	1,659	1,498	1,470	1,508	1,443	1,405	1,409	1,421	1,503	1,438
September	1,501	1,498	1,668	1,501	1,475	1,507	1,437	1,409	1,409	1,390	1,485	1,431
October ..	1,562	1,560	1,654	1,551	1,467	1,564	1,477	1,452	1,411	1,394	1,500	1,467
November ..	1,569	1,589	1,671	1,581	1,504	1,574	1,507	1,474	1,447	1,438	1,511	1,498
December	1,606	1,648	1,751	1,636	1,553	1,616	1,487	1,453	1,428	1,446	1,534	1,480

Index-numbers for each of the months of 1912, 1913, 1914, and 1915 are given on pp. 33-35 of Labour Report No. 6; for 1916 on pp. 371-3 of Labour Report, No. 7, and for 1917 on pp. 32-4, Labour Report No. 8.

Food and Groceries (46 Commodities), Index-Numbers for Each of Thirty Towns, with Weighted Average of Six Capital Towns in 1911 as Base (= 1000)—*cont.*

	Queensland—Index-Numbers.						South Australia—Index-Numbers.					
	Brisbane.	Toowoomba.	Rock-hampton.	Charters Towers.	Warwick.	Weighted Average, Queensland.	Adelaide.	Kadina.	Port Pirie.	Mt. Gambier.	Petersburg.	Weighted Average, S.A.
1912	1,102	1,100	1,142	1,292	1,144	1,123	1,154	1,154	1,195	1,031	1,160	1,152
1913	1,042	1,045	1,067	1,212	1,073	1,060	1,119	1,139	1,161	1,021	1,108	1,119
1914	1,078	1,088	1,145	1,266	1,088	1,102	1,215	1,210	1,247	1,062	1,268	1,212
1915	1,373	1,405	1,429	1,546	1,372	1,396	1,487	1,506	1,560	1,382	1,504	1,489
1916	1,426	1,432	1,530	1,599	1,422	1,452	1,532	1,583	1,604	1,467	1,593	1,537
1917	1,405	1,390	1,427	1,574	1,413	1,420	1,445	1,535	1,579	1,422	1,552	1,457
1918	**1,495**	**1,496**	**1,523**	**1,700**	**1,563**	**1,517**	**1,553**	**1,569**	**1,628**	**1,487**	**1,590**	**1,556**
1912 1st Qtr.	1,095	1,115	1,166	1,295	1,132	1,122	1,100	1,108	1,162	976	1,125	1,100
2nd ,,	1,095	1,100	1,148	1,294	1,156	1,119	1,147	1,147	1,202	1,017	1,134	1,145
3rd ,,	1,105	1,088	1,125	1,283	1,159	1,122	1,192	1,178	1,201	1,063	1,190	1,188
4th ,,	1,111	1,095	1,132	1,299	1,128	1,128	1,177	1,193	1,213	1,069	1,193	1,176
1913 1st Qtr.	1,036	1,018	1,064	1,233	1,079	1,055	1,123	1,140	1,155	1,018	1,109	1,122
2nd ,,	1,060	1,047	1,074	1,231	1,116	1,076	1,145	1,161	1,183	1,037	1,118	1,144
3rd ,,	1,040	1,054	1,052	1,192	1,058	1,056	1,117	1,137	1,162	1,039	1,117	1,118
4th ,,	1,035	1,058	1,078	1,191	1,041	1,055	1,090	1,119	1,142	989	1,088	1,091
1914 1st Qtr.	1,044	1,078	1,110	1,218	1,090	1,070	1,147	1,146	1,161	1,030	1,166	1,144
2nd ,,	1,058	1,056	1,125	1,255	1,073	1,082	1,250	1,252	1,255	1,066	1,291	1,246
3rd ,,	1,085	1,069	1,161	1,252	1,076	1,105	1,229	1,231	1,283	1,067	1,319	1,228
4th ,,	1,124	1,151	1,186	1,338	1,114	1,151	1,233	1,209	1,289	1,084	1,294	1,231
1915 1st Qtr.	1,193	1,228	1,261	1,423	1,221	1,223	1,315	1,328	1,402	1,189	1,353	1,317
2nd ,,	1,318	1,360	1,361	1,553	1,360	1,347	1,506	1,522	1,553	1,395	1,515	1,506
3rd ,,	1,450	1,483	1,466	1,549	1,422	1,463	1,602	1,624	1,673	1,498	1,607	1,603
4th ,,	1,531	1,549	1,630	1,660	1,484	1,552	1,526	1,552	1,612	1,445	1,540	1,529
1916 1st Qtr.	1,551	1,554	1,663	1,678	1,523	1,572	1,550	1,591	1,648	1,481	1,598	1,556
2nd ,,	1,456	1,453	1,580	1,645	1,440	1,484	1,574	1,610	1,643	1,512	1,630	1,578
3rd ,,	1,356	1,383	1,447	1,530	1,373	1,383	1,521	1,579	1,565	1,461	1,584	1,525
4th ,,	1,341	1,338	1,431	1,539	1,353	1,367	1,469	1,548	1,561	1,426	1,568	1,477
1917 1st Qtr.	1,349	1,308	1,384	1,542	1,335	1,364	1,476	1,564	1,583	1,419	1,560	1,485
2nd ,,	1,373	1,352	1,409	1,570	1,374	1,391	1,469	1,572	1,605	1,441	1,586	1,482
3rd ,,	1,419	1,404	1,440	1,575	1,440	1,433	1,402	1,494	1,552	1,408	1,521	1,416
4th ,,	1,480	1,498	1,473	1,610	1,503	1,492	1,432	1,511	1,575	1,419	1,539	1,444
1918 1st Qtr.	1,447	1,406	1,483	1,662	1,493	1,466	1,514	1,571	1,630	1,463	1,596	1,522
2nd ,,	1,482	1,448	1,503	1,681	1,529	1,499	1,607	1,584	1,647	1,513	1,603	1,605
3rd ,,	1,488	1,515	1,506	1,699	1,588	1,513	1,538	1,552	1,602	1,488	1,566	1,541
4th ,,	1,562	1,614	1,599	1,758	1,642	1,589	1,554	1,567	1,633	1,485	1,594	1,557
1918												
January ..	1,437	1,407	1,461	1,653	1,485	1,456	1,504	1,582	1,637	1,460	1,612	1,515
February ..	1,449	1,396	1,509	1,660	1,495	1,469	1,499	1,568	1,630	1,457	1,597	1,510
March ..	1,456	1,416	1,480	1,671	1,500	1,473	1,539	1,562	1,622	1,471	1,579	1,542
April ..	1,472	1,434	1,505	1,685	1,511	1,490	1,587	1,568	1,630	1,477	1,597	1,585
May ..	1,480	1,440	1,501	1,684	1,520	1,496	1,620	1,595	1,657	1,523	1,611	1,618
June ..	1,494	1,470	1,502	1,675	1,556	1,509	1,614	1,590	1,654	1,538	1,602	1,612
July ..	1,486	1,496	1,485	1,670	1,568	1,504	1,559	1,572	1,627	1,511	1,586	1,562
August ..	1,483	1,505	1,514	1,702	1,583	1,510	1,530	1,546	1,583	1,484	1,560	1,533
September	1,495	1,546	1,519	1,727	1,614	1,525	1,525	1,538	1,597	1,469	1,554	1,528
October	1,491	1,540	1,521	1,729	1,595	1,522	1,510	1,531	1,604	1,466	1,557	1,516
November ..	1,577	1,631	1,619	1,778	1,615	1,605	1,541	1,562	1,613	1,492	1,555	1,545
December	1,617	1,671	1,657	1,768	1,716	1,642	1,610	1,600	1,680	1,497	1,670	1,611

Index-numbers for each of the months of 1912, 1913, 1914 and 1915 are given on pp. 33-5 of Labour Report No. 6; for 1916 on pp. 371-3, Labour Report No. 7; and for 1917 on pp. 32-4, Labour Report No. 8

Food and Groceries (46 Commodities), Index-Numbers for Each of Thirty Towns, with Weighted Average of Six Capital Towns in 1911 as Base (= 1000)—*cont.*

	WESTERN AUSTRALIA—INDEX-NUMBERS.						TASMANIA—INDEX-NUMBERS.							
	Perth.	Kalgoorlie.	Midland Junction and Guildford.	Bunbury.	Geraldton.	Weighted Average, W.A.	Hobart.	Launceston.	Zeehan.	Beaconsfield.	Queenstown.	Weighted Average, Tasmania.	Weighted Average 6 Capital Towns.	Weighted Average 30 Towns, C'wealth.
1912	1,345	1,677	1,370	1,403	1,410	1,418	1,190	1,125	1,302	1,201	1,289	1,182	1,129	1,140
1913	1,267	1,607	1,301	1,352	1,386	1,344	1,164	1,073	1,268	1,181	1,291	1,149	1,095	1,106
1914	1,302	1,654	1,323	1,393	1,453	1,382	1,212	1,130	1,290	1,205	1,305	1,196	1,144	1,155
1915	1,483	1,809	1,516	1,580	1,659	1,559	1,445	1,406	1,571	1,512	1,581	1,450	1,416	1,428
1916	1,542	1,823	1,570	1,666	1,652	1,608	1,523	1,504	1,652	1,611	1,661	1,535	1,495	1,506
1917	1,505	1,790	1,520	1,652	1,626	1,571	1,544	1,510	1,638	1,615	1,647	1,548	1,472	1,481
1918	1,486	1,784	1,479	1,592	1,598	1,553	1,635	1,575	1,732	1,625	1,729	1,626	1,514	1,523
1912 1st Qtr.	1,301	1,659	1,310	1,365	1,338	1,378	1,093	1,021	1,225	1,082	1,192	1,083	1,049	1,065
2nd ,,	1,408	1,730	1,435	1,441	1,439	1,477	1,145	1,110	1,276	1,159	1,272	1,149	1,111	1,125
3rd ,,	1,368	1,671	1,406	1,433	1,435	1,435	1,235	1,171	1,329	1,237	1,341	1,226	1,186	1,194
4th ,,	1,303	1,650	1,364	1,373	1,429	1,382	1,288	1,189	1,378	1,327	1,352	1,267	1,160	1,176
1913 1st Qtr.	1,275	1,595	1,298	1,349	1,384	1,346	1,158	1,062	1,259	1,182	1,280	1,142	1,100	1,113
2nd ,,	1,299	1,621	1,334	1,370	1,407	1,372	1,188	1,090	1,287	1,205	1,331	1,171	1,117	1,129
3rd ,,	1,248	1,622	1,298	1,359	1,387	1,334	1,170	1,086	1,266	1,194	1,289	1,157	1,091	1,101
4th ,,	1,245	1,590	1,274	1,328	1,368	1,323	1,139	1,051	1,259	1,143	1,262	1,125	1,070	1,082
1914 1st Qtr.	1,245	1,580	1,260	1,330	1,399	1,320	1,162	1,075	1,245	1,149	1,285	1,146	1,104	1,115
2nd ,,	1,296	1,617	1,315	1,373	1,429	1,368	1,231	1,133	1,280	1,193	1,312	1,206	1,158	1,168
3rd ,,	1,336	1,693	1,356	1,431	1,482	1,417	1,212	1,143	1,294	1,232	1,311	1,201	1,151	1,163
4th ,,	1,330	1,727	1,362	1,440	1,503	1,420	1,243	1,170	1,342	1,245	1,311	1,230	1,161	1,174
1915 1st Qtr.	1,420	1,747	1,473	1,483	1,596	1,496	1,293	1,225	1,377	1,302	1,404	1,283	1,235	1,248
2nd ,,	1,508	1,796	1,531	1,596	1,688	1,576	1,413	1,348	1,510	1,431	1,523	1,405	1,364	1,378
3rd ,,	1,546	1,882	1,571	1,654	1,711	1,623	1,541	1,528	1,713	1,647	1,679	1,559	1,554	1,563
4th ,,	1,460	1,812	1,488	1,586	1,641	1,542	1,534	1,523	1,684	1,668	1,717	1,555	1,512	1,524
1916 1st Qtr.	1,504	1,823	1,532	1,610	1,678	1,578	1,593	1,544	1 692	1,628	1,687	1,590	1,540	1,549
2nd ,,	1,564	1,825	1,557	1,654	1,676	1,623	1,555	1,539	1,690	1,652	1,701	1,569	1,510	1,523
3rd ,,	1,580	1,851	1,622	1,737	1,656	1,644	1,489	1,475	1,635	1,605	1,654	1,507	1,479	1,492
4th ,,	1,520	1,794	1,568	1,656	1,598	1,584	1,452	1,456	1,593	1,559	1,600	1,474	1,446	1,459
1917 1st Qtr.	1,500	1,755	1,526	1,648	1,609	1,560	1,493	1,491	1,599	1,567	1,596	1,507	1,448	1,459
2nd ,,	1,555	1,780	1,572	1,725	1,631	1,609	1,481	1,487	1,610	1,594	1,622	1,503	1,461	1,473
3rd ,,	1,485	1,790	1,496	1,671	1,620	1,557	1,533	1,503	1,632	1,629	1,662	1,540	1,487	1,493
4th ,,	1,480	1,834	1,485	1,562	1,643	1,559	1,670	1,560	1,709	1,670	1,708	1,640	1,491	1,500
1918 1st Qtr.	1,480	1,825	1,482	1,572	1,628	1,557	1,659	1,582	1,707	1,663	1,712	1,640	1,501	1,511
2nd ,,	1,535	1,792	1,526	1,657	1,634	1,593	1,645	1,584	1,748	1,636	1,720	1,635	1,527	1,536
3rd ,,	1,472	1,750	1,463	1,599	1,571	1,535	1,594	1,554	1,729	1,579	1,726	1,596	1,491	1,501
4th ,,	1,457	1,769	1,443	1,540	1,560	1,525	1,641	1,580	1,744	1,624	1,758	1,634	1,538	1,545
1918														
January ..	1,488	1,859	1,491	1,557	1,649	1,571	1,680	1,577	1,713	1,660	1,727	1,651	1,493	1,505
February ..	1,446	1,812	1,458	1,560	1,606	1,529	1,658	1,584	1,712	1,676	1,711	1,641	1,500	1,510
March ..	1,506	1,803	1,498	1,598	1,630	1,573	1,639	1,584	1,696	1,654	1,700	1,628	1,510	1,519
April ..	1,529	1,797	1,514	1,633	1,639	1,589	1,641	1,583	1,717	1,665	1,704	1,632	1,519	1,528
May ..	1,524	1,791	1,524	1,656	1,633	1,585	1,648	1,588	1,758	1,617	1,722	1,638	1,529	1,539
June ..	1,552	1,788	1,539	1,682	1,630	1,606	1,645	1,580	1,769	1,625	1,733	1,636	1,532	1,541
July .	1,491	1,779	1,493	1,687	1,589	1,558	1,627	1,583	1,746	1,620	1,731	1,625	1,511	1,522
August ..	1,470	1,732	1,457	1,552	1,561	1,528	1,575	1,542	1,725	1,562	1,724	1,581	1,483	1,491
September	1,456	1,739	1,439	1,556	1,563	1,518	1,582	1,538	1,716	1,556	1,724	1,583	1,480	1,489
October ..	1,463	1,771	1,443	1,544	1,560	1,530	1,616	1,574	1,715	1,640	1,732	1,616	1,516	1,521
November ..	1,459	1,783	1,442	1,541	1,566	1,529	1,642	1,573	1,745	1,620	1,764	1,632	1,540	1,547
December	1,449	1,752	1,444	1,535	1,556	1,516	1,665	1,593	1,771	1,613	1,777	1,653	1,558	1,565

Index-numbers for each of the months of 1912, 1913, 1914 and 1915 are given on pp. 33-5 of Labour Report, No. 6; for 1916 on pp. 371-3 of Labour Report No. 7, and for 1917 on pp. 32-4, Labour Report No 8.

House Rents. Index-Numbers for Each of Thirty Towns, with Weighted Average of Six Capital Towns in 1911 as Base (= 1000).

	N.S.W.—INDEX-NUMBERS.						VICTORIA—INDEX-NUMBERS.					
	Sydney.	Newcastle.	Broken Hill.*	Goulburn.	Bathurst.	Weighted Average, N.S.W.	Melbourne.	Ballarat.	Bendigo.	Geelong.	Warrnambool.	Weighted Average, Victoria.
1912	1,183	699	689	918	683	1,112	1,016	634	659	868	759	957
1913	1,246	785	775	995	802	1,179	1,089	630	674	860	778	1,017
1914	1,279	783	617	1,067	835	1,201	1,126	644	670	887	795	1,048
1915	1,220	800	292	1,110	771	1,140	1,085	638	653	878	772	1,013
1916	1,212	778	524	1,090	765	1,140	1,089	637	639	901	784	1,017
1917	1,216	771	651	1,120	777	1,148	1,124	628	642	937	794	1,046
1918	1,252	846	703	1,125	788	1,187	1,180	628	703	929	788	1,095
1912 1st Qtr.	1,115	670	631	927	659	1,050	985	669	645	844	766	932
2nd ,,	1,169	670	648	927	659	1,097	1,002	677	664	873	766	949
3rd ,,	1,230	714	714	889	706	1,153	1,031	607	657	888	736	968
4th ,,	1,218	743	752	931	708	1,148	1,047	582	670	867	769	978
1913 1st Qtr.	1,222	773	755	939	755	1,155	1,069	626	669	859	780	999
2nd ,,	1,241	792	770	1,020	774	1,175	1,086	632	671	859	776	1,014
3rd ,,	1,246	792	796	1,010	836	1,180	1,099	632	675	865	776	1,025
4th ,,	1,275	783	780	1,010	843	1,204	1,105	630	679	859	779	1,030
1914 1st Qtr.	1,273	783	779	1,057	857	1,203	1,120	644	673	829	804	1,041
2nd ,,	1,286	783	780	1,058	845	1,214	1,144	644	678	906	810	1,064
3rd ,,	1,285	783	741	1,060	834	1,212	1,147	644	678	908	784	1,067
4th ,,	1,271	783	169	1,093	806	1,176	1,093	643	650	905	781	1,021
1915 1st Qtr.	1,228	811	222	1,093	772	1,144	1,092	638	654	879	786	1,019
2nd ,,	1,219	811	293	1,098	772	1,140	1,087	638	657	880	789	1,015
3rd ,,	1,219	793	293	1,098	772	1,138	1,079	634	649	879	758	1,008
4th ,,	1,213	785	360	1,151	767	1,136	1,081	634	651	876	757	1,009
1916 1st Qtr.	1,208	779	393	1,048	767	1,131	1,088	640	644	902	774	1,016
2nd ,,	1,214	779	454	1,100	763	1,139	1,085	638	644	901	784	1,013
3rd ,,	1,214	784	621	1,115	766	1,146	1,088	638	633	901	788	1,015
4th ,,	1,214	770	626	1,098	763	1,145	1,097	634	635	901	788	1,022
1917 1st Qtr.	1,213	771	630	1,107	763	1,144	1,115	628	621	937	794	1,037
2nd ,,	1,213	770	645	1,124	781	1,147	1,111	628	635	937	793	1,035
3rd ,,	1,213	771	660	1,124	782	1,146	1,129	628	639	937	794	1,049
4th ,,	1,223	771	669	1,125	782	1,156	1,143	628	673	937	794	1,064
1918 1st Qtr.	1,238	778	676	1,125	782	1,169	1,152	628	686	926	784	1,071
2nd ,,	1,255	805	698	1,125	782	1,186	1,157	628	699	926	781	1,075
3rd ,,	1,251	888	714	1,125	782	1,190	1,181	628	713	929	790	1,096
4th ,,	1,262	914	724	1,125	804	1,203	1,230	628	713	936	799	1,136

* See remarks *re* House Rent on page 45.

House Rents Index-Numbers for Each of Thirty Towns, with Weighted Average of Six Capital Towns in 1911 as Base (= 1000).—*cont.*

	QUEENSLAND—INDEX-NUMBERS.						SOUTH AUSTRALIA—INDEX-NUMBERS.					
	Brisbane.	Toowoomba.	Rockhampton.	Charters Towers.	Warwick.	Weighted Average, Queensland.	Adelaide.	Kadina, Moonta and Wallaroo.	Port Pirie.*	Mt. Gambier.	Petersburg.	Weighted Average, S.A.
1912	804	800	705	601	803	777	1,160	576	731	650	803	1,087
1913	863	751	758	592	719	814	1,125	588	785	678	903	1,063
1914	882	753	762	589	659	826	1,040	602	780	724	922	992
1915	859	744	759	586	629	808	932	612	615	718	848	891
1916	847	705	766	584	642	796	930	660	769	731	760	899
1917	859	724	786	632	711	815	959	701	824	716	760	928
1918	905	795	796	670	777	859	1,022	746	878	729	771	987
1912 1st Qtr.	802	829	690	611	802	777	1,165	589	724	641	805	1,091
2nd ,,	804	829	690	600	765	777	1,172	589	724	641	805	1,097
3rd ,,	809	761	710	597	912	780	1,160	587	733	652	805	1,086
4th ,,	802	780	730	597	732	773	1,145	585	737	667	796	1,075
1913 1st Qtr.	840	779	748	587	762	801	1,148	573	758	667	844	1,078
2nd ,,	860	763	760	594	752	815	1,147	592	772	676	895	1,080
3rd ,,	860	737	760	595	715	812	1,116	589	800	672	936	1,056
4th ,,	891	726	763	593	647	830	1,093	596	808	695	936	1,038
1914 1st Qtr.	882	740	757	588	647	824	1,075	579	823	703	936	1,023
2nd ,,	891	745	756	592	647	831	1,069	613	844	722	940	1,021
3rd ,,	890	763	766	585	676	833	1,052	624	844	737	943	1,008
4th ,,	865	763	767	585	667	816	962	594	607	735	869	917
1915 1st Qtr.	853	738	767	587	627	804	942	588	607	713	865	899
2nd ,,	866	755	766	585	630	814	924	584	607	718	865	883
3rd ,,	860	753	752	585	629	809	929	640	607	717	869	890
4th ,,	859	729	752	585	630	805	931	634	638	722	794	892
1916 1st Qtr.	841	730	752	580	630	793	928	651	686	727	760	892
2nd ,,	844	700	770	585	630	795	929	661	764	733	760	898
3rd ,,	848	670	770	585	624	794	931	661	813	734	760	902
4th ,,	853	719	770	585	683	804	934	669	813	732	760	905
1917 1st Qtr.	855	717	786	620	684	810	958	677	818	713	760	921
2nd ,,	861	728	786	623	698	815	953	706	826	718	760	923
3rd ,,	861	728	786	636	716	817	960	708	826	711	760	930
4th ,,	859	723	786	649	744	817	969	714	826	726	760	938
1918 1st Qtr.	885	742	786	646	752	837	982	743	832	726	760	951
2nd ,,	887	766	799	646	777	843	1,016	743	838	730	766	979
3rd ,,	920	831	799	694	783	876	1,037	744	874	730	766	1,000
4th ,,	927	843	799	694	795	882	1,054	752	967	731	792	1,020

* See Remarks *re* House Rents on p. 45.

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House Rents. Index-Numbers for Each of Thirty Towns, with Weighted Average of Six Capital Towns in 1911 as Base (= 1000)—*cont.*

	WESTERN AUSTRALIA—INDEX-NUMBERS.						TASMANIA—INDEX-NUMBERS.						Weighted Average 6 Capital Towns.	Weighted Average 30 Towns, C'wealth.
	Perth.	Kalgoorlie.	Midland Junction and Guildford.	Bunbury.	Geraldton.	Weighted Average, W.A.	Hobart.	Launceston.*	Zeehan.	Beaconsfield.	Queenstown.	Weighted Average, Tasmania.		
1912	880	843	757	674	1,033	866	829	819	450	291	557	769	1,063	994
1913	928	786	814	696	1,077	892	887	826	442	264	557	804	1,118	1,042
1914	914	770	790	707	1,117	879	914	847	335	251	614	820	1,135	1,054
1915	848	809	757	641	995	834	928	879	299	244	673	839	1,081	1,006
1916	869	838	732	567	970	851	928	893	296	208	686	843	1,080	1,008
1917	874	836	708	537	953	852	951	895	288	200	627	852	1,098	1,026
1918	**885**	**833**	**706**	**502**	**929**	**857**	**956**	**930**	**303**	**202**	**617**	**865**	**1,143**	**1,068**
1912 1st Qtr.	850	865	721	675	1,009	847	812	821	450	301	562	761	1,025	962
2nd ,,	859	865	727	675	1,009	854	817	821	450	301	562	764	1,056	986
3rd ,,	900	830	785	670	1,083	879	841	810	450	287	553	772	1,089	1,013
4th ,,	913	814	796	677	1,029	884	847	824	451	273	549	779	1,088	1,014
1913 1st Qtr.	914	839	811	682	1,063	891	902	823	461	264	558	809	1,102	1,028
2nd ,,	924	773	815	691	1,082	886	888	825	461	264	556	802	1,117	1,041
3rd ,,	930	774	815	697	1,080	891	884	827	461	264	552	800	1,120	1,045
4th ,,	947	760	814	715	1,084	900	901	828	383	264	563	806	1,135	1,055
1914 1st Qtr.	921	764	795	712	1,130	883	904	834	375	264	560	809	1,135	1,056
2nd ,,	923	770	795	724	1,151	886	911	843	348	248	622	817	1,148	1,068
3rd ,,	917	770	795	702	1,177	882	910	856	312	248	638	825	1,147	1,067
4th ,,	896	770	775	690	1,011	862	924	856	305	244	636	827	1,110	1,027
1915 1st Qtr.	860	806	756	693	1,019	851	923	856	300	244	636	827	1,088	1,010
2nd ,,	843	817	753	658	992	833	929	887	300	244	686	843	1,081	1,006
3rd ,,	839	804	759	641	987	826	929	887	300	244	686	843	1,078	1,003
4th ,,	842	807	759	572	981	827	931	887	297	244	686	844	1,077	1,003
1916 1st Qtr.	870	838	738	569	978	852	920	892	290	210	686	838	1,077	1,004
2nd ,,	869	837	734	569	969	851	924	893	291	210	686	841	1,078	1,006
3rd ,,	868	839	736	570	972	851	928	893	301	210	686	843	1,080	1,010
4th ,,	868	839	719	559	959	849	940	891	301	210	686	849	1,084	1,014
1917 1st Qtr.	872	835	711	542	959	851	945	892	301	198	628	848	1,092	1,021
2nd ,,	872	837	707	542	950	851	951	893	290	199	628	851	1,092	1,021
3rd ,,	875	837	707	536	950	852	953	895	280	199	626	852	1,099	1,027
4th ,,	875	837	708	526	952	853	956	899	280	205	626	855	1,109	1,036
1918 1st Qtr.	888	827	708	495	928	854	941	906	292	198	621	849	1,121	1,047
2nd ,,	884	834	704	495	928	856	941	917	293	198	616	852	1,133	1,058
3rd ,,	884	834	705	494	928	856	968	940	313	205	616	875	1,148	1,073
4th ,,	889	836	705	524	932	861	972	958	313	207	616	883	1,170	1,094

* See remarks *re* House Rent on page 45.

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Purchasing-Power of Money. (Food, Groceries and House Rent Combined). Index-Numbers for each of Thirty Towns, with Weighted Average for Six Capital Towns in 1911 as Base (= 1000).

	N.S.W.—INDEX-NUMBERS.						VICTORIA—INDEX-NUMBERS.					
	Sydney.	Newcastle.	Broken Hill.*	Goulburn.	Bathurst.	Weighted Average, N.S.W.	Melbourne.	Ballarat.	Bendigo.	Geelong.	Warrnambool.	Weighted Average, Victoria.
1912	1,148	955	1,080	1,042	919	1,125	1,055	914	926	996	935	1,033
1913	1,178	986	1,110	1,087	950	1,155	1,051	865	900	972	934	1,023
1914	1,206	994	1,068	1,130	987	1,179	1,105	904	922	1,012	959	1,073
1915	1,323	1,147	1,087	1,274	1,104	1,295	1,277	1,111	1,110	1,182	1,157	1,249
1916	1,394	1,208	1,282	1,350	1,178	1,370	1,309	1,126	1,118	1,233	1,185	1,279
1917	1,407	1,222	1,315	1,338	1,193	1,383	1,294	1,083	1,093	1,221	1,168	2,262
1918	**1,427**	**1,269**	**1,321**	**1,362**	**1,210**	**1,406**	**1,349**	**1,107**	**1,139**	**1,233**	**1,203**	**1,311**
1912 1st Qtr.	1,069	901	1,022	989	857	1,049	987	865	853	937	890	966
2nd ,,	1,123	923	1,049	1,011	893	1,099	1,041	901	922	981	929	1,020
3rd ,,	1,209	997	1,103	1,045	959	1,181	1,105	939	962	1,031	959	1,083
4th ,,	1,194	1,000	1,140	1,123	965	1,171	1,086	952	968	1,036	963	1,065
1913 1st Qtr.	1,171	980	1,093	1,086	935	1,148	1,049	878	923	992	940	1,025
2nd ,,	1,192	1,001	1,130	1,120	956	1,170	1,059	878	920	984	947	1,033
3rd ,,	1,176	988	1,105	1,074	954	1,153	1,053	857	886	962	930	1,023
4th ,,	1,174	977	1,111	1,069	956	1,151	1,043	846	867	947	920	1,012
1914 1st Qtr,	1,201	976	1,109	1,102	979	1,174	1,066	870	891	952	940	1,034
2nd ,,	1,214	1,001	1,158	1,142	1,008	1,190	1,128	907	936	1,040	965	1,095
3rd ,,	1,208	998	1,125	1,129	988	1,183	1,120	920	932	1,020	964	1,088
4th ,,	1,203	1,001	879	1,146	975	1,169	1,106	920	930	1,035	969	1,077
1915 1st Qtr.	1,229	1,060	968	1,169	1,013	1,201	1,147	970	976	1,055	1,008	1,118
2nd ,,	1,259	1,095	1,066	1,217	1,056	1,234	1,261	1,094	1,088	1,155	1,135	1,232
3rd ,,	1,406	1,213	1,134	1,346	1,173	1,375	1,377	1,219	1,230	1,278	1,271	1,351
4th ,,	1,400	1,219	1,181	1,364	1,172	1,372	1,322	1,162	1,147	1,237	1,214	1,295
1916 1st Qtr.	1,419	1,233	1,212	1,336	1,172	1,389	1,337	1,148	1,151	1,254	1,203	1,306
2nd ,,	1,393	1,202	1,263	1,362	1,185	1,368	1,319	1,146	1,136	1,258	1,196	1,291
3rd ,,	1,388	1,212	1,325	1,361	1,180	1,368	1,300	1,116	1,095	1,224	1,189	1,269
4th ,,	1,374	1,197	1,327	1,341	1,175	1,354	1,280	1,092	1,092	1,195	1,153	1,249
1917 1st Qtr.	1,381	1,211	1,322	1,352	1,178	1,361	1,280	1,083	1,077	1,213	1,159	1,240
2nd ,,	1,386	1,217	1,331	1,334	1,188	1,366	1,288	1,084	1,100	1,232	1,171	1,258
3rd ,,	1,434	1,229	1,298	1,322	1,197	1,406	1,300	1,078	1,096	1,221	1,172	1,266
4th ,,	1,425	1,233	1,308	1,344	1,208	1,400	1,308	1,087	1,098	1,219	1,169	1,273
1918 1st Qtr.	1,424	1,239	1,328	1,335	1,206	1,400	1,326	1,102	1,126	1,237	1,175	1,292
2nd ,,	1,428	1,258	1,364	1,361	1,217	1,407	1,346	1,112	1,161	1,250	1,208	1,312
3rd ,,	1,406	1,261	1,298	1,351	1,198	1,386	1,339	1,096	1,134	1,222	1,209	1,302
4th ,,	1,449	1,317	1,294	1,399	1,219	1,428	1,383	1,118	1,135	1,225	1,221	1,340

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* See remarks *re* House Rent on page 45

Purchasing-Power of Money. (Food, Groceries and House Rent Combined.) Index-Numbers for each of Thirty Towns, with Weighted Average for Six Capital Towns in 1911 as Base (=1000).—*cont.*

	QUEENSLAND—INDEX-NUMBERS.						SOUTH AUSTRALIA—INDEX-NUMBERS.					
	Brisbane.	Toowoomba.	Rock-hampton.	Charters Towers.	Warwick.	Weighted Average, Queensland.	Adelaide.	Kadina, Moonta and Wallaroo.	Port Pirie.*	Mt. Gambier.	Petersburg.	Weighted Average, S.A.
1912	979	977	962	1,008	1,004	981	1,157	917	1,004	874	1,014	1,126
1913	969	924	940	957	928	959	1,121	913	1,006	880	1,024	1,096
1914	997	950	988	988	912	988	1,143	960	1,055	923	1,126	1,122
1915	1,162	1,133	1,154	1,151	1,067	1,155	1,259	1,139	1,172	1,109	1,234	1,243
1916	1,188	1,133	1,216	1,182	1,102	1,182	1,285	1,204	1,261	1,165	1,251	1,275
1917	1,181	1,116	1,163	1,187	1,124	1,172	1,245	1,193	1,269	1,132	1,226	1,239
1918	1,252	1,208	1,224	1,277	1,240	1,247	1,335	1,231	1,320	1,176	1,253	1,323
1912 1st Qtr.	975	998	970	1,014	995	980	1,127	895	982	838	993	1,096
2nd ,,	976	989	960	1,009	995	979	1,157	918	1,006	862	999	1,126
3rd ,,	984	954	955	1,001	1,058	981	1,183	935	1,009	894	1,032	1,146
4th ,,	984	966	967	1,010	965	982	1,164	943	1,017	904	1,030	1,135
1913 1st Qtr.	956	920	934	968	949	951	1,133	907	992	874	1,000	1,104
2nd ,,	978	930	945	969	966	969	1,146	927	1,014	889	1,026	1,118
3rd ,,	966	923	932	947	917	955	1,116	912	1,013	888	1,043	1,092
4th ,,	976	922	948	945	879	962	1,092	904	1,005	868	1,025	1,069
1914 1st Qtr.	977	939	965	959	908	969	1,118	913	1,022	896	1,072	1,094
2nd ,,	990	928	973	983	898	979	1,176	989	1,086	925	1,147	1,153
3rd ,,	1,005	943	999	978	912	993	1,156	981	1,103	932	1,164	1,137
4th ,,	1,018	992	1,014	1,029	930	1,013	1,122	957	1,009	940	1,120	1,102
1915 1st Qtr.	1,053	1,026	1,058	1,079	977	1,051	1,162	1,024	1,075	993	1,152	1,145
2nd ,,	1,132	1,111	1,116	1,155	1,060	1,128	1,267	1,136	1,164	1,117	1,248	1,250
3rd ,,	1,208	1,183	1,173	1,153	1,096	1,194	1,325	1,220	1,235	1,177	1,304	1,310
4th ,,	1,255	1,212	1,269	1,218	1,133	1,245	1,282	1,174	1,212	1,148	1,234	1,268
1916 1st Qtr.	1,259	1,216	1,289	1,227	1,156	1,252	1,295	1,205	1,253	1,171	1,253	1,283
2nd ,,	1,205	1,144	1,247	1,209	1,107	1,201	1,309	1,220	1,282	1,192	1,272	1,299
3rd ,,	1,147	1,090	1,169	1,142	1,065	1,141	1,278	1,202	1,256	1,162	1,245	1,269
4th ,,	1,140	1,083	1,160	1,147	1,077	1,135	1,257	1,188	1,251	1,134	1,231	1,249
1917 1st Qtr.	1,146	1,065	1,138	1,163	1,068	1,137	1,261	1,200	1,269	1,128	1,231	1,253
2nd ,,	1,163	1,095	1,153	1,181	1,096	1,154	1,257	1,216	1,285	1,142	1,246	1,252
3rd ,,	1,189	1,126	1,171	1,189	1,142	1,180	1,221	1,171	1,254	1,122	1,208	1,216
4th ,,	1,225	1,179	1,190	1,215	1,191	1,215	1,242	1,183	1,267	1,134	1,219	1,236
1918 1st Qtr.	1,216	1,133	1,197	1,244	1,188	1,208	1,295	1,231	1,302	1,160	1,252	1,287
2nd ,,	1,237	1,168	1,214	1,256	1,220	1,229	1,364	1,239	1,315	1,191	1,259	1,348
3rd ,,	1,254	1,234	1,215	1,286	1,257	1,251	1,332	1,220	1,303	1,177	1,238	1,319
4th ,,	1,301	1,297	1,270	1,321	1,294	1,299	1,349	1,232	1,359	1,175	1,265	1,336

* See remarks *re* House Rent on page 45.

Purchasing-Power of Money. (Food, Groceries and House Rent Combined.) Index-Numbers for each of Thirty Towns, with Weighted Average for Six Capital Towns in 1911 as Base (=1000)—*cont.*

	WESTERN AUSTRALIA—INDEX-NUMBERS.						TASMANIA—INDEX-NUMBERS.						Weighted Average 6 Capital Towns.	Weighted Average 30 Towns, C'wealth.
	Perth.	Kalgoorlie.	Midland Junction and Guildford.	Bunbury.	Geraldton.	Weighted Average, W.A.	Hobart.	Launceston.	Zeehan.	Beaconsfield.	Queenstown.	Weighted Average, Tasmania.		
1912	1,154	1,334	1,123	1,104	1,255	1,191	1,042	999	952	827	988	1,012	1,101	1,080
1913	1,128	1,270	1,101	1,082	1,259	1,158	1,053	971	928	804	989	1,007	1,104	1,080
1914	1,143	1,291	1,104	1,111	1,315	1,175	1,090	1,014	898	813	1,021	1,041	1,140	1,113
1915	1,122	1,398	1,204	1,194	1,386	1,261	1,233	1,190	1,048	991	1,208	1,199	1,278	1,255
1916	1,266	1,418	1,226	1,214	1,372	1,297	1,278	1,253	1,095	1,034	1,260	1,251	1,324	1,301
1917	1,246	1,398	1,186	1,193	1,349	1,275	1,301	1,258	1,083	1,034	1,228	1,261	1,318	1,294
1918	1,239	1,393	1,161	1,144	1,323	1,267	1,356	1,310	1,145	1,040	1,272	1,313	1,362	1,336
1912 1st Qtr.	1,116	1,333	1,068	1,082	1,203	1,160	978	939	907	761	933	951	1,038	1,023
2nd ,,	1,184	1,373	1,146	1,126	1,266	1,222	1,010	991	937	806	980	991	1,087	1,068
3rd ,,	1,176	1,326	1,150	1,120	1,291	1,210	1,073	1,023	968	846	1,017	1,040	1,146	1,120
4th ,,	1,143	1,306	1,130	1,087	1,265	1,177	1,107	1,039	997	894	1,022	1,066	1,130	1,110
1913 1st Qtr.	1,126	1,284	1,098	1,075	1,252	1,159	1,053	964	931	805	983	1,005	1,101	1,078
2nd ,,	1,145	1,272	1,121	1,091	1,273	1,172	1,064	981	947	819	1,012	1,019	1,117	1,093
3rd ,,	1,118	1,274	1,100	1,087	1,261	1,152	1,053	979	935	812	986	1,010	1,103	1,078
4th ,,	1,123	1,249	1,085	1,076	1,251	1,149	1,041	959	899	782	975	994	1,096	1,071
1914 1st Qtr.	1,112	1,245	1,069	1,076	1,288	1,141	1,056	976	887	785	987	1,008	1,117	1,090
2nd ,,	1,143	1,269	1,101	1,106	1,314	1,170	1,099	1,014	897	804	1,029	1,046	1,154	1,127
3rd ,,	1,164	1,314	1,125	1,131	1,357	1,197	1,091	1,025	891	828	1,034	1,046	1,150	1,124
4th ,,	1,152	1,334	1,121	1,131	1,301	1,191	1,112	1,041	916	834	1,034	1,064	1,140	1,113
1915 1st Qtr.	1,193	1,361	1,178	1,158	1,359	1,231	1,141	1,073	934	867	1,088	1,095	1,174	1,151
2nd ,,	1,235	1,394	1,211	1,211	1,402	1,270	1,214	1,159	1,012	938	1,179	1,174	1,247	1,226
3rd ,,	1,255	1,439	1,237	1,238	1,413	1,296	1,290	1,265	1,132	1,071	1,271	1,264	1,358	1,333
4th ,,	1,206	1,399	1,188	1,170	1,370	1,248	1,286	1,262	1,114	1,083	1,293	1,262	1,333	1,310
1916 1st Qtr.	1,243	1,418	1,206	1,182	1,390	* 1,280	1,317	1,276	1,116	1,045	1,276	1,281	1,350	1,325
2nd ,,	1,278	1,419	1,219	1,208	1,386	1,305	1,296	1,274	1,115	1,059	1,284	1,270	1,333	1,310
3rd ,,	1,287	1,435	1,258	1,257	1,375	1,318	1,259	1,236	1,087	1,032	1,256	1,234	1,316	1,294
4th ,,	1,252	1,402	1,219	1,206	1,335	1,282	1,242	1,224	1,062	1,005	1,224	1,217	1,300	1,276
1917 1st Qtr.	1,242	1,377	1,191	1,194	1,342	1,269	1,268	1,245	1,066	1,004	1,198	1,236	1,302	1,279
2nd ,,	1,274	1,393	1,217	1,239	1,351	1,297	1,263	1,243	1,068	1,021	1,218	1,235	1,309	1,287
3rd ,,	1,234	1,399	1,171	1,204	1,345	1,267	1,295	1,253	1,076	1,041	1,236	1,257	1,328	1,301
4th ,,	1,232	1,424	1,166	1,136	1,359	1,269	1,377	1,289	1,122	1,068	1,264	1,317	1,334	1,310
1918 1st Qtr.	1,235	1,415	1,164	1,129	1,341	1,268	1,364	1,304	1,125	1,061	1,264	1,315	1,345	1,320
2nd ,,	1,268	1,398	1,188	1,179	1,344	1,290	1,356	1,310	1,150	1,045	1,266	1,313	1,365	1,339
3rd ,,	1,230	1,373	1,152	1,145	1,307	1,256	1,337	1,302	1,147	1,014	1,270	1,300	1,349	1,325
4th ,,	1,223	1,386	1,140	1,123	1,302	1,252	1,366	1,324	1,156	1,041	1,289	1,325	1,387	1,359

* See remarks *re* House Rent on page 45.

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(i.) *Food and Groceries (46 commodities).*—Information as to variations in prices of Group I. (Groceries), Group II. (Dairy Produce), and Group III. (Meat) are collected monthly, and in the tables on pp. 33 to 35 the index-numbers for the combined expenditure on the three groups are given at yearly, quarterly, and monthly intervals.

(ii.) *House Rent.*—Information as to variations in housing accommodation is collected quarterly, and index-numbers at yearly and quarterly periods are given in the tables on pp. 36 to 38.

(iii.) *Food, Groceries, and House Rent combined.*—The tables on pp. 39 to 41 furnish comparisons in the form of index-numbers of the variations in the combined expenditure on the 46 items of food and groceries and housing accommodation at yearly and quarterly periods for 1912 to 1918 inclusive. It should be observed that the index-numbers in these tables are comparable in every respect in so far as they relate to the capital towns with those given on page 28 for the respective groups, and where they relate to the same period are of course identical in both tables. Thus for the years 1912 to 1918 inclusive, the index-numbers for the six capital towns are (as they should be) the same in both sets of tables.

The last columns in each of the above tables refer to the weighted average for the thirty towns. The method of computing these weighted average index-numbers is explained in Report No. 1, page 35. The population weights used in the computations are as follows —

Population Weights used in Computation of Index-Numbers in different towns in order to arrive at the Weighted Average for each State and for the Commonwealth, with Weighted Average for all Towns as Base.

Town.	Weight.	Town.	Weight.	Town.	Weight.	Town.	Weight.	Town.	Weight.	Town.	Weight.
Sydney ..	633	Melbourne	590	Brisbane	140	Adelaide	190	Perth, etc.	105	Hobart	42
Newcastle	62	Ballarat	53	T'woomba	20	Kadina,etc	12	Kalg'lie,etc	31	Launceston	25
Br'ken Hill	31	Bendigo	44	R'k'hmton	21	Pt. Pirie	11	Mid.Jn.,etc	7	Q'nstown	5
Goulburn	13	Geelong	34	Chtrs Twrs	17	Mt.Gamb'r	7	Bunbury	4	Zeehan	4
Bathurst	9	W'nambo'l	9	Warwick	6	Petersburg	3	Geraldton	4	Beac'nsfield	3

(iv.) *Care to Avoid Erroneous Comparisons.*—It is, of course, obvious that the index-numbers given in the separate parts of the table cannot be directly compared with each other, in order to shew the relative cost of (say) house rent and groceries and food, since the weighted average cost in 1911 is in each case made equal to 1000, although the cost is, of course, not the same.

7. **Relative Cost of Food and Groceries and Housing Accommodation in Different Towns, 1918.**—The figures given in the following table shew the relative index-numbers for 1918 in the thirty towns for which particulars are regularly collected. The index-numbers are comparable in all respects, and further, it will be observed that the index-numbers in the last column of the table are identical for each town with

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those given in the table on pages 39 to 41 for the year 1918. The first column gives the relative expenditure on groceries and food. The second, third, fourth, and fifth columns give comparative information with regard to expenditure on house rent for houses of four, five, and six rooms, and for all houses respectively, while the remaining columns give similar information for food and groceries, combined with house rent of each class of house indicated.

1918.—Index-Numbers, shewing Relative Cost in each of Thirty Towns, of Food and Groceries and House Rent (including 4, 5, and 6-roomed Houses, and all Houses), compared with Weighted Average Expenditure on Groceries, Food and Rent (all Houses) in the Six Capital Towns in 1911 as Base (= 1000).

TOWN.	Groceries and Food.	HOUSE RENT.				GROCERIES, FOOD AND RENT, INCLUDING HOUSES HAVING—			
		Four-roomed Houses only.	Five-roomed Houses only.	Six-roomed Houses only.	All Houses Weighted Average.	Four Rooms.	Five Rooms.	Six Rooms.	All Houses Weighted Average.
NEW SOUTH WALES—									
Sydney	912	403	487	572	515	1,315	1,399	1,484	1,427
Newcastle	922	271	357	438	347	1,193	1,279	1,360	1,269
Broken Hill* ..	1,032	265	345	413	289	1,297	1,377	1,445	1,321
Goulburn	899	307	405	548	463	1,206	1,304	1,447	1,362
Bathurst	886	217	291	380	324	1,103	1,177	1,266	1,210
Weighted Average ..	918	382	467	552	488	1,300	1,385	1,470	1,406
VICTORIA—									
Melbourne	864	348	442	537	485	1,212	1,306	1,401	1,349
Ballarat	849	143	216	290	258	992	1,065	1,139	1,107
Bendigo	850	189	267	350	289	1,039	1,117	1,200	1,139
Geelong	851	233	332	428	382	1,084	1,183	1,279	1,233
Warrnambool ..	879	239	310	369	324	1,118	1,189	1,248	1,203
Weighted Average ..	862	317	408	501	449	1,179	1,270	1,363	1,311
QUEENSLAND—									
Brisbane	881	236	306	410	371	1,117	1,187	1,291	1,252
Toowoomba ..	881	192	259	313	327	1,073	1,140	1,194	1,208
Rockhampton ..	897	208	262	348	327	1,105	1,159	1,245	1,224
Charters Towers ..	1,002	217	290	338	275	1,219	1,292	1,340	1,277
Warwick	921	152	245	376	319	1,073	1,166	1,297	1,240
Weighted Average ..	894	225	294	387	353	1,119	1,188	1,281	1,247
SOUTH AUSTRALIA—									
Adelaide	915	313	411	526	420	1,228	1,326	1,441	1,335
Moonta, etc. ..	924	229	295	388	307	1,153	1,219	1,312	1,231
Port Pirie*	959	325	384	415	361	1,284	1,343	1,374	1,320
Mt. Gambier ..	876	218	272	365	300	1,094	1,148	1,241	1,176
Petersburg	937	240	323	375	316	1,177	1,260	1,312	1,253
Weighted Average ..	917	305	398	506	406	1,222	1,315	1,423	1,323
WESTERN AUSTRALIA—									
Perth, etc.	876	306	381	468	363	1,182	1,257	1,344	1,239
Kalgoorlie, etc. ..	1,051	357	434	520	342	1,408	1,485	1,571	1,393
Mid. Junction, etc...	871	230	307	365	290	1,101	1,178	1,236	1,161
Bunbury	938	211	262	299	206	1,149	1,200	1,237	1,144
Geraldton	942	358	451	537	381	1,300	1,393	1,479	1,323
Weighted Average ..	915	312	387	471	352	1,227	1,302	1,386	1,267
TASMANIA—									
Hobart	963	308	377	437	393	1,271	1,340	1,400	1,356
Launceston	928	270	364	439	382	1,198	1,292	1,367	1,310
Zeeban	1,020	134	170	207	125	1,154	1,190	1,227	1,145
Beaconsfield ..	958	62	90	108	82	1,020	1,048	1,066	1,040
Queenstown ..	1,019	273	327	375	253	1,292	1,346	1,394	1,272
Weighted Average ..	958	276	348	410	355	1,234	1,306	1,368	1,313
Commonwealth Weighted Average ..	**897**	**328**	**413**	**503**	**439**	**1,225**	**1,310**	**1,400**	**1,336**

* See Remarks on page 45 with reference to house rents.

The weighted average for all houses is obtained separately for each of the thirty towns by "weighting" the rent paid for each class of house by the number of houses in each respective class in each town. If houses of only one particular size are included, different results may be obtained. This is evident when it is remembered that the distribution of houses according to number of rooms is substantially different in some of the towns; that is to say, there are a greater number of large, and therefore of relatively more expensive, houses in some towns than in others, and *vice versa*, and consequently the weighted average rents in the former class of town refer to a larger size of house than in the latter class. Separate results are accordingly given for the several classes of houses specified in the table.

The figures in the last four columns furnish results for expenditure on groceries and food, combined with expenditure on rent, for each of the three classes of houses indicated, and also for the weighted average for all houses.

Some few words as to the proper interpretation of the preceding table may not be out of place. The total expenditure in each town for food and groceries, as well as the average rental paid, is multiplied by a number representing the population of the town, and a weighted average expenditure for all towns is thus computed. The weights used are given on page 42. The relative expenditure in each town for (*a*) food and groceries, (b) house rents, and (c) food, groceries, and house rent combined, is shewn, the base of the table being the weighted average expenditure in the six capital towns for 1911 = 1000. Thus in each horizontal line the sum of the index-number for food and groceries and that for rent of houses of each specified size is equal to the index-number for food, groceries, and house rent combined, taking the corresponding house-rent group. The table is comparable in all respects, and in addition shews the proportionate cost of food and groceries and of rent. For example, taking the last line in the table on the preceding page, it may be seen that taking the weighted average expenditure for all the towns on food, groceries, and average rents to be £1336, the expenditure on food and groceries alone is £897 (1st column), and the average rental £439 (5th column), the sum of the two latter amounts being £1336. Again, if it be desired to ascertain the relative expenditure for food and groceries and rent of four-roomed houses, it will be found the figures are £897 and £328, which, together amount to £1225 (6th column). In addition to shewing the relative cost of food and groceries and house rent (for diffierent classes of houses) in each town individually, the table also furnishes comparisons as to the relative cost of these items as between the several towns. Thus taking food and groceries only (1st column), it may be seen that commodities which would cost £912 in Sydney can be purchased for £864 in Melbourne, or £915 in Adelaide. Again, taking the combined expenditure on food, groceries, and house rent for houses of five rooms (7th column), it will be seen that an expenditure of £1306 in Melbourne is equivalent to an expenditure of £1399 in Sydney, £1326 in Adelaide, £1485 in Kalgoorlie, or £1393 in Geraldton.

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The index-numbers are reversible, and may be used for comparisons as to purchasing-power of money as between any of the towns included. Thus if it be ascertained that the average rental of five-roomed houses in Melbourne is, say, 16s. 10d. weekly, and the average rental of the same class of house in Sydney is required, all that is necessary is to multiply the rental in Melbourne by the index-number for five-roomed houses in Sydney and divide by the index-number for Melbourne (3rd column), 16s. 10d. × $\frac{487}{442}$ = 18s. 6d., which will be found to be the average rental of five-roomed houses in Sydney (see Appendix V.).

(i.) *Food and Groceries.*—As regards food and groceries it may be seen that the weighted average of the five towns was above the weighted average for all towns for 1918 in New South Wales, South Australia, Western Australia, and Tasmania, and lower in the remaining States. The most expensive towns are Kalgoorlie in Western Australia, and Broken Hill in New South Wales, Kalgoorlie being 17.2 per cent., and Broken Hill 15.1 per cent. above the weighted average for all towns.

(ii.) *House Rent.*—It will be seen that taking house-rents of any size of house given, or of the weighted average of all houses, Sydney, Melbourne, Goulburn and Adelaide are the most expensive towns, while Beaconsfield and Zeehan, in Tasmania, are the cheapest.

With reference to house-rents in Broken Hill and Port Pirie, it is necessary to observe that for some time after the outbreak of war a number of houses were occupied at purely nominal or reduced rentals by families of which the wage-earner was out of employment. It was not until the latter half of 1916 that enquiries elicited the fact that normal conditions again obtained. It must be borne in mind, therefore, that for the years 1914, 1915 and 1916 the average rents in these towns have been computed in accordance with special investigations which have been made each quarter.

(iii.) *Food and Groceries and House Rent combined.*—The last column in the foregoing table shews the relative cost according to average prices of the commodities and housing accommodation in each town during 1918. It may be seen that the average cost was greatest in Sydney, followed by Kalgoorlie, Goulburn and Hobart. The index-number for Sydney was 6.8 per cent., Kalgoorlie 4.3 per cent., Goulburn, 1.9 per cent., and Hobart, 1.5 per cent. above the weighted average cost for all towns. The cost was least in Zeehan and Beaconsfield, 22.2 and 17.1 per cent. respectively below the weighted average cost for all towns.

8. **Purchasing-Power of Money.**—In the following table the average cost for the six capital towns in the year 1911 has again been taken as base. This base has been taken as equal to 20s. instead of 1000 as in the former tables. The figures shew the variations in purchasing-power of money from year to year in each town separately (in the vertical lines), and the relative cost in the several towns in each year (in the horizontal lines). It may be seen, for instance, that 20s. 7d. in Sydney in 1911 was equivalent to 18s. 4d. in Brisbane, or 19s. 1d. in Hobart; or that 25s. 9d. in Melbourne for the second quarter of 1917 was equivalent to 15s. 5d. in Brisbane in 1901, or 22s. 6d. in Perth in 1913.

CSL

Purchasing-Power of Money.—Amounts necessary on the Average in each Year from 1901 to 1919 (1st Quarter) to purchase in each Capital Town what would have cost on the Average £1 in 1911 in the Australian Capitals regarded as a whole.*

Year,		Sydney.		Melb'rne		Brisbane		Adelaide		Perth.		Hobart.		Weighted Average of 6 Capital Towns	
		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1901	.. ..	17	10	17	5	15	5	17	3	20	6	17	5	17	7
1902	.. ..	19	7	18	1	16	0	17	3	21	7	17	10	18	7
1903	.. ..	19	2	17	7	15	9	16	9	21	8	17	11	18	2
1904	.. ..	17	5	17	1	14	8	16	3	20	10	17	1	17	2
1905	.. ..	18	9	17	7	15	5	17	6	20	11	17	9	18	0
1906	.. ..	18	8	17	7	15	7	17	10	20	5	18	0	18	0
1907	.. ..	18	6	17	6	15	11	17	11	19	9	17	9	17	11
1908	.. ..	19	9	18	6	17	1	19	1	20	0	18	5	19	0
1909	.. ..	19	9	18	1	17	0	19	10	19	9	19	0	19	0
1910	.. ..	19	11	18	10	17	6	20	2	20	6	19	0	19	5
1911	.. ..	20	7	19	0	18	4	21	2	22	6	19	1	**20**	**0**†
1912	.. ..	22	11	21	1	19	7	23	2	23	1	20	10	22	0
1913	.. ..	23	7	21	0	19	5	22	5	22	6	21	1	22	1
1914	.. ..	24	1	22	1	19	11	22	10	22	10	21	10	22	10
1915	.. ..	26	6	25	6	23	3	25	2	24	5	24	8	25	7
1916	.. ..	27	10	26	2	23	9	25	8	25	4	25	7	26	6
1917	.. ..	28	1	25	11	23	7	24	11	24	11	26	0	26	4
1918	.. ..	**28**	**6**	**27**	**0**	**25**	**1**	**26**	**8**	**24**	**9**	**27**	**1**	**27**	**3**
1912	1st Quarter	21	4	19	9	19	6	22	6	22	4	19	7	20	9
	2nd ,,	22	5	20	10	19	6	23	2	23	8	20	2	21	9
	3rd ,,	24	1	22	1	19	8	23	8	23	6	21	5	22	11
	4th ,,	23	10	21	8	19	8	23	3	22	10	22	2	22	7
1913	1st ,,	23	5	21	0	19	1	22	8	22	6	21	1	22	0
	2nd ,,	23	10	21	2	19	7	22	11	22	11	21	3	22	4
	3rd ,,	23	6	21	1	19	4	22	4	22	4	21	1	22	1
	4th ,,	23	6	20	10	19	6	21	10	22	5	20	10	21	11
1914	1st ,,	24	0	21	4	19	7	22	4	22	3	21	1	22	4
	2nd ,,	24	3	22	7	19	9	23	6	22	10	22	0	23	1
	3rd ,,	24	2	22	5	20	1	23	2	23	3	21	10	23	0
	4th ,,	24	1	22	1	20	4	22	5	23	0	22	3	22	10
1915	1st ,,	24	7	22	11	21	1	23	3	23	10	22	10	23	6
	2nd ,,	25	2	25	3	22	8	25	4	24	8	24	3	24	11
	3rd ,,	28	1	27	6	24	2	26	6	25	1	25	10	27	2
	4th ,,	28	0	26	5	25	1	25	8	24	1	25	9	26	8
1916	1st ,,	28	4	26	9	25	2	25	11	24	10	26	4	27	0
	2nd ,,	27	10	26	5	24	1	26	2	25	7	25	11	26	8
	3rd ,,	27	9	26	0	22	11	25	7	25	9	25	2	26	4
	4th ,,	27	6	25	7	22	10	25	2	25	1	24	10	26	0
1917	1st ,,	27	7	25	7	22	11	25	3	24	10	25	4	26	0
	2nd ,,	27	9	25	9	23	3	25	2	25	6	25	3	26	2
	3rd ,,	28	8	26	0	23	9	24	5	24	8	25	11	26	7
	4th ,,	28	6	26	2	24	6	24	10	24	8	27	6	26	8
1918	1st ,,	28	6	26	6	24	4	25	11	24	8	27	3	26	11
	2nd ,,	28	7	26	11	24	9	27	3	25	4	27	1	27	4
	3rd ,,	28	1	26	9	25	1	26	8	24	7	26	9	27	0
	4th ,,	29	0	27	8	26	0	27	0	24	6	27	4	27	9
1919—1st	,,	**30**	**6**	**28**	**9**	**27**	**11**	**28**	**4**	**25**	**8**	**28**	**8**	**29**	**1**

* These results are based upon the regimen referred to on pp. 20-2 Labour Report No. 6, which includes food, groceries, and housing accommodation.

† Basis of Table

(i.) *Groceries and Food only.*—The following table has been computed in the same manner as that indicated above, but relates to *groceries and food* (46 items) only. The average expenditure for the six capital towns in 1911 has again been taken as the basis of the table (=20s.), and the figures are, of course, comparable throughout.

Purchasing-Power of Money.—Groceries and Food only.—Amount necessary on the Average in each Year from 1901 to 1919 (1st Quarter) to purchase in each Capital Town what would have cost on the Average £1 in 1911 in the Australian Capitals regarded as a whole.*

Year		Sydney.		Melb'ne.		Brisbane.		Adelaide.		Perth.		Hobart.		Weighted Average of 6 CapitalTowns	
		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1901 ..	..	18	4	19	4	19	4	20	7	23	8	20	3	19	4
1902 ..	..	21	4	20	4	20	4	20	6	25	6	21	0	21	1
1903 ..	..	20	7	19	6	19	9	19	8	25	8	21	1	20	4
1904 ..	..	17	6	18	4	17	10	18	10	24	3	19	8	18	5
1905 ..	..	19	5	19	1	18	11	19	10	25	2	20	7	19	8
1906 ..	..	19	3	18	11	19	2	19	8	24	9	20	11	19	7
1907 ..	..	18	9	18	6	18	11	19	0	23	11	20	2	19	1
1908 ..	..	20	7	19	11	20	6	20	2	24	6	21	1	20	7
1909 ..	..	20	3	19	0	19	8	20	6	24	3	21	10	20	1
1910 ..	..	20	0	19	2	20	0	20	0	25	0	21	6	20	1
1911 ..	..	19	9	18	8	20	4	20	5	26	11	21	2	20	0†
1912 ..	..	22	6	21	8	22	0	23	1	26	11	23	10	22	6
1913 ..	..	22	8	20	6	20	10	22	5	25	4	23	3	21	11
1914 ..	..	23	1	21	10	21	7	24	4	26	0	24	3	22	11
1915 ..	..	27	11	28	3	27	6	29	9	29	8	28	11	28	4
1916 ..	..	30	5	29	3	28	6	30	8	30	10	30	5	29	11
1917 ..	..	30	10	28	3	28	2	28	11	30	1	30	11	29	5
1918 ..	..	**31**	**0**	**29**	**4**	**29**	**11**	**31**	**1**	**29**	**9**	**32**	**8**	**30**	**3**
1912	1st Qt'r	20	9	19	9	21	11	22	0	26	0	21	10	21	0
	2nd ,,	21	10	21	5	21	11	22	11	28	2	22	11	22	3
	3rd ,,	23	11	23	2	22	1	23	10	27	4	24	8	23	9
	4th ,,	23	6	22	3	22	3	23	6	26	1	25	9	23	2
1913	1st ,,	22	9	20	9	20	9	22	5	25	6	23	2	22	0
	2nd ,,	23	2	20	10	21	2	22	11	26	0	23	9	22	4
	3rd ,,	22	7	20	5	20	10	22	4	25	0	23	5	21	10
	4th ,,	22	1	20	0	20	8	21	10	24	11	22	9	21	5
1914	1st ,,	23	0	20	7	20	11	22	11	24	11	23	3	22	1
	2nd ,,	23	3	22	4	21	2	25	0	25	11	24	7	23	2
	3rd ,,	23	1	22	0	21	8	24	7	26	9	24	3	23	0
	4th ,,	23	1	22	4	22	6	24	8	26	7	24	10	23	3
1915	1st ,,	24	7	23	9	23	11	26	4	28	5	25	10	24	8
	2nd ,,	25	9	27	8	26	4	30	2	30	2	28	3	27	3
	3rd ,,	30	9	31	8	29	0	32	0	30	11	30	10	31	1
	4th ,,	30	7	29	10	30	8	30	6	29	2	30	8	30	3
1916	1st ,,	31	4	30	2	31	0	31	0	30	1	31	10	30	10
	2nd ,,	30	4	29	8	29	1	31	6	31	3	31	1	30	2
	3rd ,,	30	2	29	0	27	1	30	5	31	7	29	9	29	7
	4th ,,	29	8	28	2	26	10	29	8	30	5	29	1	28	11
1917	1st ,,	30	0	27	11	27	0	29	6	30	0	29	10	28	11
	2nd ,,	30	1	28	3	27	6	29	4	31	1	29	8	29	3
	3rd ,,	31	9	28	5	28	5	28	1	29	8	30	8	29	9
	4th ,,	31	4	28	5	29	7	28	8	29	7	33	5	29	10
1918	1st ,,	31	1	28	11	28	11	30	3	29	7	33	2	30	0
	2nd ,,	31	0	29	7	29	8	32	2	30	8	32	11	30	6
	3rd ,,	30	3	29	0	29	9	30	9	29	5	31	11	29	10
	4th ,,	31	7	29	10	31	3	31	1	29	2	32	10	30	9
1919—1st	,,	**34**	**0**	**31**	**3**	**34**	**2**	**33**	**0**	**30**	**10**	**33**	**10**	**32**	**9**

* These results are based upon the regimen referred to on pp. 20-2 Labour Report No. 6

† Basis of Table.

(ii.) *House Rent Only.*—The following table gives similar particulars for *house rent only*, the average for the six towns in 1911 being again taken as the basis of the table (= 20s.):—

Purchasing-Power of Money.—House Rent.—Amount payable on the Average in each Year from 1901 to 1919 (1st Quarter) for House Rent in each Capital Town, compared with a Rent of £1 in 1911 in the Australian Capitals regarded as a whole.

Year.		Sydney.		Melb'ne.		Brisbane.		Adelaide.		Perth.		Hobart.		Weighted Average of 6 CapitalTowns	
		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1901 ..	..	17	3	14	8	9	9	12	7	16	0	13	4	15	1
1902 ..	..	17	3	14	11	9	10	12	7	15	11	13	5	15	2
1903 ..	..	17	4	14	11	10	1	12	7	16	0	13	6	15	3
1904 ..	..	17	5	15	3	10	2	12	7	16	0	13	6	15	4
1905 ..	..	17	10	15	5	10	5	14	0	14	9	13	7	15	8
1906 ..	..	17	11	15	8	10	6	15	3	14	4	13	9	15	11
1907 ..	..	18	4	16	1	11	6	16	3	13	8	14	2	16	4
1908 ..	..	18	7	16	7	12	4	17	5	13	7	14	7	16	10
1909 ..	..	19	2	16	10	13	3	18	10	13	4	15	0	17	5
1910 ..	..	19	10	18	4	14	0	20	4	13	11	15	6	18	5
1911 ..	..	21	10	19	5	15	4	22	3	16	3	16	1	20	0*
1912 ..	..	23	8	20	4	16	1	23	2	17	7	16	7	21	3
1913 ..	..	24	11	21	10	17	3	22	6	18	7	17	10	22	4
1914 ..	..	25	7	22	6	17	8	20	10	18	3	18	3	22	8
1915 ..	..	24	5	21	8	17	2	18	8	17	0	18	7	21	7
1916 ..	..	24	3	21	9	17	0	18	7	17	4	18	7	21	7
1917 ..	..	24	3	22	6	17	5	19	2	17	5	19	0	22	0
1918 ..	**..**	**25**	**0**	**23**	**7**	**18**	**1**	**20**	**5**	**17**	**8**	**19**	**1**	**22**	**10**
1912	1st Qt'r	22	4	19	8	16	0	23	3	17	0	16	3	20	6
	2nd ,,	23	4	20	0	16	1	23	5	17	2	16	4	21	1
	3rd ,,	24	7	20	7	16	2	23	5	18	0	16	10	21	10
	4th ,,	24	4	20	11	16	0	22	11	18	3	16	11	21	7
1913	1st ,,	24	5	21	4	16	10	22	11	18	3	18	0	22	0
	2nd ,,	24	10	21	9	17	2	22	11	18	6	17	9	22	4
	3rd ,,	24	11	22	0	17	3	22	3	18	7	17	8	22	5
	4th ,,	25	6	22	1	17	10	21	10	18	11	18	0	22	8
1914	1st ,,	25	6	22	5	17	8	21	6	18	5	18	1	22	8
	2nd ,,	25	9	22	10	17	10	21	5	18	5	18	3	23	0
	3rd ,,	25	8	22	11	17	10	21	1	18	4	18	5	22	11
	4th ,,	25	5	21	10	17	4	19	3	17	11	18	6	22	2
1915	1st ,,	24	7	21	10	17	1	18	10	17	5	18	6	21	9
	2nd ,,	24	5	21	9	17	4	18	6	16	11	18	7	21	7
	3rd ,	24	5	21	7	17	2	18	7	16	10	18	7	21	7
	4th ,,	24	3	21	7	17	2	18	7	16	10	18	7	21	6
1916	1st ,,	24	2	21	9	16	10	18	7	17	5	18	5	21	6
	2nd ,,	24	3	21	8	16	11	18	7	17	5	18	6	21	7
	3rd ,,	24	3	21	9	17	0	18	7	17	4	18	7	21	7
	4th ,,	24	3	21	11	17	2	18	8	17	4	18	10	21	8
1917	1st ,,	24	3	22	3	17	10	19	1	17	5	18	11	21	10
	2nd ,,	24	3	22	3	17	3	19	1	17	5	19	0	21	10
	3rd ,,	24	2	22	7	17	3	19	2	17	6	19	1	22	0
	4th ,,	24	6	22	10	17	2	19	5	17	6	19	1	22	2
1918	1st ,,	24	9	23	1	17	8	19	8	17	8	18	10	22	5
	2nd ,,	25	1	23	2	17	9	20	4	17	8	18	10	22	8
	3rd ,,	25	0	23	8	18	5	20	9	17	8	19	4	22	11
	4th ,,	25	3	24	7	18	6	21	1	17	9	19	5	23	5
1919—1st	,,	**25**	**5**	**25**	**0**	**19**	**1**	**21**	**8**	**18**	**3**	21	3	23	9

* Basis of Table.

9. Monthly Fluctuations in Retail Prices of Food and Groceries, July, 1914, to May, 1919.—The following table has been prepared in order to shew the variations in retail prices of food and groceries since July, 1914, the last month prior to the outbreak of war. Particulars for each town are given in the form of index-numbers for food and groceries in each of the months specified. In the last column the percentage increase is shewn for each town in May, 1919, compared with

July, 1914. It is necessary to observe that the index-numbers given in the following table are computed to the same base as those given in the preceding tables in this section, referring to food and groceries only, viz., the weighted average expenditure in the six capital towns for 1911 of food and groceries (46 commodities) is made equal to 1000.

Retail Prices Index-Numbers (Food and Groceries), for each of Thirty Towns for the Months specified, with Weighted Average for Six Capital Towns in 1911 as Base (=1000).‡

Particulars.	1914.	1915.	1916.	1917.		1918.		1919.		Per cent. increase from July, 1914 to May, 1919.
	July.	May.	May.	April.	May.	April.	May.	April.	May.	
NEW SOUTH WALES—										%
Sydney	1,153	1,268	1,509	1,513	1,499	1,552	1,546	1,766	1,768	53.3
Newcastle	1,147	1,285	1,507	1,527	1,527	1,565	1,576	1,759	1,776	54.8
Broken Hill	1,468	1,575	1,817	1,806	1,814	1,787	1,848	1,834	1,827	24.5
Goulburn	1,183	1,312	1,550	1,507	1,476	1,518	1,523	1,738	1,746	47.6
Bathurst	1,097	1,243	1,479	1,461	1,473	1,512	1,521	1,653	1,663	51.6
*Weighted Average ..	1,165	1,283	1,522	1,525	1,514	1,562	1,560	1,768	1,770	51.9
VICTORIA—										
Melbourne	1,106	1,386	1,485	1,410	1,409	1,462	1,486	1,586	1,564	41.4
Ballarat	1,103	1,424	1,506	1,401	1,406	1,435	1,459	1,535	1,530	38.7
Bendigo	1,107	1,390	1,482	1,403	1,432	1,480	1,487	1,528	1,522	37.5
Geelong	1,089	1,350	1,514	1,446	1,432	1,473	1,481	1,532	1,541	41.5
Warrnambool	1,087	1,404	1,493	1,431	1,436	1,492	1,514	1,559	1,567	44.2
*Weighted Average ..	1,105	1,388	1,488	1,411	1,412	1,462	1,484	1,576	1,558	41.0
QUEENSLAND—										
Brisbane	1,057	1,323	1,491	1,364	1,375	1,472	1,480	1,718	1,704	61.2
Toowoomba	1,041	1,371	1,457	1,323	1,360	1,434	1,440	1,756	1,755	68.6
Rockhampton	1,156	1,378	1,613	1,400	1,404	1,505	1,501	1,792	1,797	55.4
Charters Towers ..	1,246	1,588	1,644	1,573	1,582	1,685	1,684	1,940	1,911	53.4
Warwick	1,083	1,379	1,462	1,348	1,369	1,511	1,520	1,771	1,770	63.4
*Weighted Average ..	1,082	1,359	1,512	1,381	1,394	1,490	1,496	1,749	1,738	60.6
SOUTH AUSTRALIA—										
Adelaide	1,250	1,485	1,584	1,485	1,480	1,587	1,620	1,674	1,703	36.2
Kadina, Moonta, Wallaroo	1,230	1,488	1,612	1,570	1,573	1,568	1,595	1,659	1,661	35.0
Port Pirie	1,291	1,530	1,643	1,600	1,603	1,630	1,657	1,715	1,726	33.7
Mt. Gambier	1,064	1,382	1,504	1,438	1,445	1,477	1,523	1,535	1,543	45.0
Petersburg	1,340	1,536	1,622	1,573	1,584	1,597	1,611	1,687	1,699	26.8
*Weighted Average ..	1,247	1,485	1,586	1,495	1,491	1,585	1,618	1,671	1,697	36.1
WESTERN AUSTRALIA—										
Perth	1,340	1,502	1,550	1,535	1,586	1,529	1,524	1,706	1,891	41.1
Kalgoorlie and Boulder	1,664	1,806	1,814	1,740	1,799	1,797	1,791	1,930	2,188	31.5
Mid. Junc. & Guildford	1,354	1,532	1,534	1,552	1,598	1,530	1,524	1,660	1,837	35.7
Bunbury	1,418	1,593	1,608	1,677	1,753	1,633	1,656	1,723	1,895	33.6
Geraldton	1,445	1,689	1,675	1,621	1,630	1,639	1,633	1,723	1,745	20.8
*Weighted Average ..	1,412	1,573	1,608	1,584	1,636	1,590	1,585	1,751	1,946	37.8
TASMANIA—										
Hobart	1,211	1,401	1,551	1,476	1,471	1,641	1,648	1,705	1,678	38.6
Launceston	1,144	1,345	1,538	1,485	1,478	1,583	1,588	1,637	1,645	43.8
Zeehan	1,292	1,531	1,683	1,597	1,610	1,717	1,758	1,804	1,804	39.6
Beaconsfield	1,230	1,436	1,647	1,580	1,587	1,666	1,617	1,658	1,678	36.4
Queenstown	1,315	1,519	1,697	1,598	1,625	1,701	1,722	1,843	1,842	40.1
*Weighted Average ..	1,201	1,399	1,566	1,496	1,494	1,632	1,638	1,695	1,684	40.2
†Weighted Aver. for Cwth.	1,164	1,372	1,524	1,473	1,473	1,528	1,539	1,686	1,696	45.7

* Average for the five towns. † Average for thirty towns.

‡ See remarks on page 31 of Labour Report No. 6 with reference to change of base period.

NOTE.—Corresponding index-numbers for the intervening months are given in Labour Reports Nos. 6, 7 and 8, in Labour Bulletins Nos. 17 and 18, and in the Quarterly Summaries of Statistics Nos. 70 to 75.

10. **Tables of Prices and House Rents, 1918.**—While the summarised results of price-movements are published quarterly, the actual data from which such results are obtained are published in full only annually. In appendixes to Report No. 1, particulars were given of prices and house rents in the metropolitan towns in each year from 1901 to 1911, and in appendixes to Report No. 2, particulars were given of average prices and house rents in 1912 for each of the thirty towns from which returns are collected. In Appendixes I. and II. of Report No. 5 similar particulars were given for the year 1913; in Appendixes I. and III. to Report No. 6 particulars were given of average prices for 1914 and 1915; in Appendixes II. and IV. of the same Report similar information was given in regard to house rents. In Appendixes Nos. I and II of Report No. 7; in Appendixes Nos. I. and II. of Report No. 8, and in Appendixes Nos. IV. and V. hereof, information is given in regard to average prices and house rents respectively for the years 1916, 1917 and 1918.

11. **Increase in Cost of Food and Groceries and House Rent, 1918, compared with previous years.**—The following tables have been prepared in order to shew for each capital town (i.) the total increase (or decrease) in the cost of food, groceries, and house rent combined in 1918 compared with each preceding year since 1901, and (ii.) amount of the percentage increase (or decrease) due to variations (*a*) in prices of food and groceries, and (*b*) in house rent. The sum of the percentages for any year and town in the last two parts of the table must, of course, equal the corresponding total percentage in the first part of the table. Thus the total percentage of increase in cost of food, groceries, and house rent in Sydney for 1918 compared with 1904 is 63.6 per cent., of which 45.4 per cent. is due to increased cost of food and groceries, and 18.2 per cent. to increase in house rents. In any case where there has been a decrease (*i.e.*, where the combined cost of food and groceries and house rent, or if either separately was less in 1918 than in preceding years) the fact is indicated by a negative sign.

Percentage of Increase or Decrease in Purchasing-Power-of-Money Index-Numbers in 1918 compared with previous Years 1901 to 1917.

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average for 6 Capital Towns.
1901	59.8	55.1	62.7	54.5	20.7	55.9	54.9
1902	45.6	49.2	56.5	54.7	15.0	51.8	46.5
1903	48.9	53.2	58.6	59.6	14.2	51.0	49.6
1904	63.6	57.9	70.5	64.4	19.0	58.5	58.7
1905	52.2	53.6	62.7	52.7	18.6	53.0	51.1
1906	52.7	53.6	60.4	49.8	21.0	50.8	51.0
1907	54.1	54.0	57.7	49.3	25.9	53.0	51.8
1908	44.7	45.6	46.3	40.1	23.8	47.3	43.3
1909	44.3	49.0	47.2	34.8	25.4	42.4	43.7
1910	43.4	43.2	42.8	32.5	21.1	42.6	40.5
1911	38.4	42.0	36.9	26.2	10.1	42.1	36.1
1912	24.2	27.9	27.8	15.4	7.4	30.1	23.7
1913	21.1	28.3	29.3	19.0	9.8	28.7	23.3
1914	18.3	22.0	25.6	16.8	8.5	24.4	19.5
1915	7.8	5.7	7.8	6.1	1.4	10.0	6.5
1916*	2.4	3.0	5.4	4.3	—2.1	6.1	2.8
1917*	1.5	4.3	6.0	7.3	—0.5	4.2	3.3

* See footnote to next page.

Percentage of Increase or Decrease in Purchasing-Power-of-Money Index-Numbers in 1918 compared with previous years 1901 to 1917—*cont.*

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.*	Hobart.	Weighted Average for 6 Capital Towns.
PERCENTAGE DUE TO VARIATIONS IN COST OF FOOD AND GROCERIES.							
1901	41.7	34.0	40.5	35.8	17.3	42.3	36.6
1902	29.0	29.4	35.3	36.0	11.6	38.6	29.3
1903	32.0	33.0	37.9	40.3	11.0	38.1	32.2
1904	45.4	37.9	48.3	44.5	15.6	45.0	40.7
1905	36.3	34.5	42.1	37.8	12.9	40.2	34.7
1906	36.9	35.0	40.4	37.8	14.3	38.5	35.1
1907	39.0	36.4	40.7	39.7	17.3	41.5	36.9
1908	31.0	30.0	32.4	33.6	15.3	37.1	30.2
1909	32.0	33.7	35.5	31.4	16.3	33.5	31.8
1910	32.5	31.7	33.2	32.3	13.5	34.8	31.1
1911	32.0	32.9	30.7	29.7	7.4	35.6	30.3
1912	21.8	21.5	23.6	20.3	7.2	25.1	20.8
1913	20.9	24.8	27.5	22.8	11.4	26.3	22.4
1914	19.2	20.0	24.6	17.5	9.6	22.8	19.2
1915	6.8	2.6	6.2	3.1	0.2	9.1	4.5
1916*	1.2	0.2	3.4	1.4	—2.6	5.2	0.9
1917*	0.4	2.5	4.4	5.2	—0.9	4.1	1.9
PERCENTAGE DUE TO VARIATION IN HOUSE RENTS.							
1901	18.1	21.1	22.2	18.7	3.4	13.6	18.3
1902	16.6	19.8	21.2	18.7	3.4	13.2	17.2
1903	16.9	20.2	20.7	19.3	3.2	12.9	17.4
1904	18.2	20.0	22.2	19.9	3.4	13.5	18.0
1905	15.9	19.1	20.6	15.1	5.7	12.8	16.4
1906	15.8	18.6	20.0	12.0	6.8	12.3	15.9
1907	15.1	17.6	17.0	9.6	8.4	11.5	14.9
1908	13.7	15.6	13.9	6.5	8.5	10.2	13.1
1909	12.3	15.3	11.7	3.4	9.1	8.9	11.9
1910	10.9	11.5	9.6	0.2	7.6	7.8	9.4
1911*	6.4	9.1	6.2	—3.5	2.7	6.5	5.8
1912*	2.4	6.4	4.2	—4.9	0.2	5.0	2.9
1913*	0.2	3.5	1.8	—3.8	—1.6	2.4	0.9
1914*	—0.9	2.0	1.0	—0.7	—1.1	1.6	0.3
1915	1.0	3.1	1.6	3.0	1.2	0.9	2.0
1916	1.2	2.8	2.0	2.9	0.5	0.9	1.9
1917	1.1	1.8	1.6	2.1	0.4	0.1	1.4

* The negative sign indicates a decrease.

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SECTION V.—INVESTIGATIONS INTO VARIATIONS IN PURCHASING-POWER-OF-MONEY INDEX-NUMBERS IN 150 TOWNS IN THE COMMONWEALTH.

1. **Introduction.**—In order to supplement the information as to variations in the purchasing-power of money, which is collected each month for the 30 towns specified in the preceding Section, a special investigation was initiated in November, 1913, as to purchasing-power-of-money index-numbers in 70 additional towns in the Commonwealth. This investigation was repeated in November, 1914, and again in November, 1915, when the number of additional towns was increased to 120, and it is intended to carry it out in that month each year, thus making information available annually in all for 150 towns. The results of the first investigation were published in Labour Bulletin No. 5 (Section IV., pages 26 to 33), where some description was given of the methods adopted in making the investigation and in computing the index-numbers. The results of the second investigation (November, 1914) were published in Labour Bulletin No. 8 (Section IV., pages 231 to 240); of the third in Labour Bulletin No. 12 (Section IV., pages 356 to 361); of the fourth in in Report No. 7 (Section V., pages 393 to 403), and of the fifth in Report No. 8 (Section V., pages 47 to 57).

2. **Index-Numbers shewing relative Purchasing-Power of Money.**—The results of the investigation made in November, 1918, are set out in the tables on pages 53 to 56. *The basis for the whole of this table is the weighted average aggregate expenditure for the 150 towns on food, groceries, and rent of five-roomed houses, in November*, 1918. (See end of last column on page 56). This weighted average aggregate expenditure is made equal to 1000, and the aggregate expenditure on these items for each individual town is shewn in the last column in the form of index-numbers relative to this average. In the preceding column similar index-numbers are shewn for food, groceries, and rent of four-roomed houses, and these index-numbers are again computed to the same base indicated above. That is to say, that while the index-number 1000 (see page 56) represents the weighted average expenditure on food, groceries, and rent of five-roomed houses, 937 represents the average weighted expenditure on food, groceries, and rent of four-roomed houses. Similarly, in the remaining three columns, if 1000 represents the weighted average expenditure on food, groceries, and rent of five-roomed houses (page 56), the index-number 695 represents the relative weighted average expenditure on food and groceries only, the index-number 242 represents the relative weighted average expenditure on rent of four-roomed houses, and 305 the expenditure on rent of five-roomed houses. It follows, therefore, that the figures given in the table are comparable throughout. Thus, taking the average weighted expenditure for all 150 towns on food, groceries, and rent of five-roomed houses as equal to 1000, the expenditure on the same items in Melbourne is 1017, while if four-roomed houses were substituted for five-roomed, the expenditure in Melbourne would be represented by 941,

of which 671 would be the expenditure on food and groceries, and the remaining 270 the expenditure on house rent. Again, the expenditure in Sydney on food, groceries, and rent of five-roomed houses is 1070, or 7.0 per cent. above the weighted average, and that number is made up of 699, the relative expenditure on food and groceries, and 371 the relative expenditure on rent of five-roomed houses. The expenditure on the same items in Grafton is represented by 979, of which 730 represents the expenditure on food and groceries and 249 that on rent.

In the following table, the first column shews the index-numbers for food and groceries only, while the second and third shew the index-numbers for the rent of houses having four and five rooms respectively. The fourth column shews the aggregate index-numbers for food and groceries combined with the rent of four-roomed houses, and the last column the index-numbers for food and groceries combined with the rent of five-roomed houses :—

Relative Purchasing-Power-of-Money Index-Numbers in Various Towns compared with Weighted Average Cost of Food, Groceries, and Rent of 5 Rooms as Base (=1000), November, 1918.*

State and Town.	Food and Groceries, Index No.	House Rent, 4 Rooms, Index No.	House Rent, 5 Rooms, Index No.	Food, Groceries, and Rent of 4 Rooms Index No.	Food, Groceries, and Rent of 5 Rooms Index No.
New South Wales—					
Sydney	699	307	371	1,006	1,070
Newcastle	708	225	290	933	998
Broken Hill ..	744	210	268	954	1,012
Goulburn	704	224	300	928	1,004
Bathurst	670	147	197	817	867
Adelong	681	90	134	771	815
Albury	692	248	291	940	983
Armidale	701	224	284	925	985
Bega	686	149	211	835	897
Bourke	746	159	168	905	914
Bowral	709	229	264	938	973
Casino	725	159	189	884	914
Cobar	720	164	207	884	927
Cooma	700	183	232	883	932
Coonamble ..	771	199	274	970	1,045
Cootamundra ..	697	286	366	983	1,063
Corrimal	706	149	179	855	885
Cowra	715	229	284	944	999
Deniliquin	705	177	223	882	928
Dubbo	701	197	296	898	997
Forbes	709	174	239	883	948
Glen Innes ..	698	182	274	880	972
Grafton	730	199	249	929	979
Grenfell	723	239	299	962	1,022
Gunnedah	693	224	299	917	992
Hay	693	154	243	847	936
Inverell	745	232	278	977	1,023
Junee	703	244	294	947	997
Katoomba ..	724	282	343	1,006	1,067
Kempsey	708	141	224	849	932
Lismore	732	244	323	976	1,055
Lithgow	711	242	274	953	985

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* These results are based upon the regimen referred to on pages 20-22 Labour Report No. 6

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Relative Purchasing-Power-of-Money Index-Numbers in Various Towns compared with Weighted Average Cost of Food, Groceries, and Rent of 5 Rooms as Base (=1000), November, 1918—*cont.*

State and Town.	Food and Groceries, Index No.	House Rent, 4 Rooms, Index No.	House Rent, 5 Rooms, Index No.	Food, Groceries, and Rent of 4 Rooms Index No.	Food, Groceries, and Rent of 5 Rooms Index No.
New South Wales—*cont.*					
Maitland	679	167	244	846	923
Moree	749	299	348	1,048	1,097
Moss Vale	703	224	274	927	977
Mudgee	693	179	224	872	917
Narrabri	722	199	302	921	1,024
Nowra	715	149	199	864	914
Orange	693	183	258	876	951
Parkes	734	184	231	918	965
Queanbeyan ..	713	177	219	890	932
Tamworth	710	222	262	932	972
Temora	721	224	271	945	992
Wagga Wagga ..	683	241	343	924	1,026
Wellington ..	718	182	244	900	962
Wollongong ..	704	216	254	920	958
Wyalong	730	196	267	926	997
Yass	711	223	256	934	967
Young	711	179	259	890	970
Weighted Average for State ..	703	276	339	979	1,042
Victoria—					
Melbourne	671	270	346	941	1,017
Ballarat	657	108	164	765	821
Bendigo	645	145	206	790	851
Geelong	641	168	234	809	875
Warrnambool ..	673	182	241	855	914
Ararat	686	149	219	835	905
Bairnsdale ..	683	151	202	834	885
Beechworth ..	664	112	129	776	793
Benalla	667	178	224	845	891
Bright	677	129	177	806	854
Camperdown ..	675	168	221	843	896
Castlemaine ..	674	152	214	826	888
Colac	685	194	261	879	946
Creswick	669	111	154	780	823
Daylesford ..	665	100	162	765	827
Dunolly	661	80	114	741	775
Echuca	672	122	162	794	834
Euroa	636	144	174	780	810
Hamilton	671	171	234	842	905
Horsham	694	187	234	881	928
Korumburra ..	652	184	209	836	861
Kyneton	662	124	194	786	856
Maldon	665	90	109	755	774
Maryborough ..	667	107	144	774	811
Mildura	699	304	359	1,003	1,058
Nhill	694	186	219	880	913
Omeo	717	109	129	826	846
Orbost	696	168	241	864	937
Portland	680	158	232	838	912
St. Arnaud ..	680	184	226	864	906
Sale	652	134	194	786	846
Shepparton ..	679	159	234	838	913
Stawell	685	157	202	842	887

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Relative Purchasing-Power-of-Money Index-Numbers in Various Towns compared with Weighted Average Cost of Food, Groceries, and Rent of 5 Rooms as Base (=1000), November, 1918—*cont.*

State and Town.	Food and Groceries, Index No.	House Rent, 4 Rooms, Index No.	House Rent, 5 Rooms, Index No.	Food, Groceries, and Rent of 4 Rooms Index No.	Food, Groceries, and Rent of 5 Rooms Index No.
Victoria—*cont.*					
Swan Hill ..	669	256	336	925	1,005
Walhalla	686	50	80	736	766
Wandiligong ..	733	60	80	793	813
Wangaratta ..	657	199	251	856	908
Warracknabeal ..	628	175	216	803	844
Wonthaggi ..	711	239	299	950	1,010
Yackandandah ..	666	139	172	805	838
Weighted Average for State	668	234	304	902	972
Queensland—					
Brisbane	703	185	237	888	940
Toowoomba ..	727	149	203	876	930
Rockhampton ..	721	158	198	879	919
Charters Towers ..	792	169	223	961	1,015
Warwick	719	124	198	843	917
Bundaberg ..	752	169	219	921	971
Cairns	814	244	294	1,058	1,108
Charleville ..	804	246	310	1,050	1,114
Chillagoe	830	40	79	870	909
Cloncurry	919	287	365	1,206	1,284
Cooktown	794	71	103	865	897
Cunnamulla ..	748	179	219	927	967
Goondiwindi ..	716	174	219	890	935
Gympie	760	143	186	903	946
Hamilton	741	298	398	1,039	1,139
Hughenden ..	810	348	373	1,158	1,183
Ipswich	756	169	214	925	970
Longreach ..	799	189	251	988	1,050
Mackay	757	244	284	1,001	1,041
Maryborough ..	718	134	164	852	882
Mt. Morgan ..	725	199	229	924	954
Roma	792	249	299	1,041	1,091
Townsville ..	768	305	379	1,073	1,147
Winton	848	249	348	1,097	1,196
Weighted Average for State	729	185	237	914	966
South Australia—					
Adelaide	686	243	317	929	1,003
Moonta & Kadina	696	175	225	871	921
Port Pirie	719	269	318	988	1,037
Mt. Gambier ..	664	165	206	829	870
Petersburg	693	187	250	880	943
Gawler	674	153	202	827	876
Kapunda	680	109	144	789	824
Murray Bridge ..	676	224	270	900	946
Pt. Augusta ..	737	253	340	990	1,077
Pt. Lincoln ..	736	159	199	895	935
Pt. Victor	677	209	309	886	986
Renmark	722	284	358	1,006	1,080
Weighted Average for State ..	688	235	304	923	992

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Relative Purchasing-Power-of-Money Index-Numbers in Various Towns compared with Weighted Average Cost of Food, Groceries, and Rent of 5 Rooms as Base (=1000), November, 1918—*cont.*

State and Town.	Food and Groceries, Index No.	House Rent, 4 Rooms, Index No.	House Rent, 5 Rooms, Index No.	Food, Groceries, and Rent of 4 Rooms Index No.	Food, Groceries, and Rent of 5 Rooms Index No.
Western Australia—					
Perth & Fremantle	650	233	288	883	938
Kalgoorlie & Boulder	794	273	328	1,067	1,122
Midland Junction & Guildford ..	642	174	232	816	874
Bunbury	687	163	207	850	894
Geraldton	697	273	344	970	1,041
Albany	720	236	286	956	1,006
Broome	872	†	†	†	†
Carnarvon	812	252	325	1,064	1,137
Cue	768	144	174	912	942
Katanning	698	249	297	947	995
Leonora	861	149	199	1,010	1,060
Menzies	904	100	119	1,004	1,023
Northam	703	211	259	914	962
Ravensthorpe ..	845	101	164	946	1,009
Weighted Average for State ..	688	234	289	922	977
Tasmania—					
Hobart	731	238	289	969	1,020
Launceston ..	701	210	282	911	983
Zeehan	777	103	129	880	906
Beaconsfield ..	721	48	70	769	791
Queenstown ..	786	205	247	991	1,033
Burnie	687	216	259	903	946
Campbelltown ..	715	88	105	803	820
Devonport ..	723	215	276	938	999
Franklin	718	179	239	897	957
Oatlands	690	80	100	770	790
Scottsdale	707	127	177	834	884
Weighted Average for State ..	724	208	262	932	986
Weighted Average Commonwealth	695	242	305	937	**1,000** *

* Basis of Tables. † Not available.

3. **Food and Groceries.**—Comparing the index-numbers for food and groceries alone (column I.), it will be observed that, taking the weighted average for all the towns in each State, New South Wales, Queensland, and Tasmania are above the average for the Commonwealth, while Victoria, South Australia and Western Australia are below. Queensland is the most expensive State (4.9 per cent. above the average), and Victoria the cheapest (3.9 per cent. below). Of the other States New South Wales is 1.2 per cent., and Tasmania 4.2 per cent. above the average, while the index-numbers for South Australia and Western Australia are 1.0 per cent., below the average. In all the States some of the towns are above and some below the average for the Commonwealth. In

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New South Wales the most expensive town is Coonamble, 10.9 per cent. above the weighted average for the 150 towns, while the cheapest town is Bathurst, which is 3.6 per cent. below the average. In Victoria, Wandiligong is the most expensive town, 5.5 per cent. above, and Warracknabeal the cheapest, 9.6 per cent. below the average. In Queensland the most expensive town is Cloncurry, 32.2 per cent. above, and the cheapest Brisbane, 1.2 per cent. *above* the average. In South Australia the most expensive town is Port Augusta, 6.0 per cent. above, and the cheapest Mt. Gambier, 4.5 per cent. below the average. In Western Australia, Menzies is the most expensive town, 30.1 per cent. above, and Midland Junction and Guildford the cheapest, 7.6 per cent. below the weighted average for all towns. Queenstown is the most expensive town in Tasmania, being 13.1 per cent. above, while Burnie is the cheapest, being 1.2 per cent. below the average for the 150 towns.

4. **House Rents.**—There is a far greater divergence between the relative expenditure on house rents in the various towns than on food and groceries. As might naturally be expected, the general tendency appears to be that the cost of housing accommodation is greater in places where there is great centralisation of people than in sparsely-populated districts. That this is not always the case, however, is at once apparent on comparing the index-numbers for Sydney with its 770,000 inhabitants and such towns as Hughenden and Townsville in Queensland and Geraldton and Kalgoorlie in Western Australia.

Comparing the weighted average of the towns in each State, it will be seen that, in the case of four-roomed houses, New South Wales is 14.1 per cent. above the average for the whole of the towns, while the other States are below the average; Queensland 23.6 per cent.; Tasmania 4.1 per cent.; Victoria 3.3 per cent.; Western Australia 3.3 per cent.; and South Australia 2.9 per cent. Turning now to houses having 5 rooms, it will be seen that again New South Wales is above the average for the whole of the towns, by 11.1 per cent. Of the remaining States, Queensland is 22.3 per cent., Western Australia 21.6 per cent., Tasmania 14.1 per cent., South Australia 0.3 per cent., and Victoria 0.3 per cent. below the average for the 150 towns.

Comparing individual towns it may be seen that in New South Wales, Sydney has the highest index-number for houses of four and five rooms, 26.9 per cent. for the former and 21.6 per cent. for the latter, above the average for the 150 towns considered as a whole. Adelong has the lowest index-number for both kinds of houses, being 62.8 per cent. for 4 rooms, and 56.1 per cent. for 5 rooms, below the average. In Victoria, Mildura is the highest for houses of 4 rooms and 5 rooms, 25.6 per cent. for the former, and 17.7 per cent. for the latter, above the average. Walhalla has the lowest index-number in both cases, 79.3 per cent. below the average for houses having 4 rooms and 73.8 per cent. below for houses having 5 rooms. With regard to rent for houses having 5 rooms, the index-number for Wandiligong is the same as for Walhalla. In Queensland, Hughenden has the highest index-number for 4 rooms, 43.8 per cent. above the average, and Hamilton for 5 rooms, being 30.5 per cent. above the average for all towns. Chillagoe has the lowest index-number in both cases, being 83.5 per cent. for 4 rooms, and 74.1 per cent. for 5 rooms below the average. In South Australia Renmark has the highest index-number for house rents for houses of 4 and 5 rooms, being 17.4 per cent. in both cases above the average, while Kapunda has the lowest index-number, 55.0 per cent. for houses of 4 rooms, and 52.8 per cent. for houses of 5 rooms below the average. In Western Australia, Kalgoorlie and Geraldton have the highest index-number for houses of 4 rooms, being 12.8 per cent. above the average. For houses of 5 rooms Geraldton has the highest index-number, being 12.8 per cent. above the average. For houses of 4 rooms, Menzies is 58.7 per cent., and for houses of 5 rooms 61.0 per cent. below the average for the 150 towns. Hobart has the highest index-numbers for Tasmania in both cases, being 1.7 per cent. *below* the average for houses of 4 rooms, and 5.2 *below* the average for houses of 5 rooms. Beaconsfield has the lowest index-numbers in both cases, being 80.2 per cent. for 4 rooms, and 77.0 per cent. for 5 rooms below the average for the 150 towns considered as a whole.

5. **Food, Groceries and House Rent.**—The index-numbers in the last two columns of the table on pages 53 to 56 shew the relative cost of food and groceries combined with rent of the two classes of houses indicated. The general order and arrangement, both of the separate States and of individual towns, as regards relative cost of the commodities and house rent included, is the same whether the rent included refers to four or to five-roomed houses. Taking the combined expenditure in the case of four rooms and five rooms, the weighted average index-numbers for New South Wales are above the weighted average for all towns, while the index-numbers are below in the remaining States. Taking combined expenditure on food, groceries, and rent of four-roomed houses, New South Wales is 4.5 per cent., above the weighted average for the Commonwealth, while the remaining States are below the average ; Victoria 3.7 per cent., Queensland 2.5 per cent., Western Australia 1.6 per cent., South Australia 1.5 per cent., and Tasmania 0.5 per cent. For combined expenditure on food, groceries and houses having five rooms, the index-number for New South Wales is 4.2 per cent. above the weighted average for all towns, while the index-number for Queensland is 3.4 per cent., for Victoria 2.8 per cent., for Western Australia 2.3 per cent., for Tasmania 1.4 per cent., and for South Australia 0.8 per cent. below the average.

Comparing individual towns, it may be seen that in New South Wales the index number for combined expenditure on food, groceries and rent of four-roomed and five-roomed houses is greatest in Moree, being 11.8 per cent. for the former, and 9.7 per cent. for the latter above the average. The index-number is lowest in Adelong, whether the comparison be made with four or five rooms. In the former case it is 17.7 per cent., and in the latter 18.5 per cent. below the average. In Victoria, Mildura has the highest combined index-number in both cases, 7.0 per cent. and 5.8 per cent. above the respective weighted average index-numbers. Walhalla has the lowest combined index-number for both four and five-roomed houses, being 21.6 per cent. for the former, and 23.4 per cent. for the latter, below the Commonwealth averages. In Queensland, Cloncurry has the highest index-number, whether the combined expenditure include four or five rooms. The index-number for Cloncurry is 28.7 per cent. for four rooms, and 28.4 per cent. for five rooms, above the Commonwealth averages, while Warwick has the lowest index-number for four rooms and Maryborough for five rooms. Warwick is 10.0 per cent., and Maryborough 11.8 per cent. below the average. In South Australia, Renmark has the highest, and Kapunda the lowest index-number in both cases. The index-number for Renmark is 7.4 per cent. for four rooms, and 8.0 per cent. for five rooms above, and for Kapunda 15.8 per cent. for four rooms, and 17.6 per cent. for five rooms below the weighted averages for the Commonwealth. In Western Australia Carnarvon has the highest combined index-number for houses of both four and five rooms, being 13.6 per cent. for the former, and 13.7 per cent. for the latter, above the average. Midland Junction has the lowest combined index-number for both four and five rooms. In the former case it is 12.9 per cent., and in the latter 12.6 per cent. below the Commonwealth average. Queenstown has the highest combined index-numbers in Tasmania, being 5.8 per cent. for four rooms, and 3.3 per cent. for five rooms above the average. Beaconsfield has the lowest combined index-numbers, being 17.9 per cent. below the average, when combined expenditure for four rooms is taken, and 20.9 per cent. below the average for five rooms.

6. **Variation in Purchasing-Power-of-Money Index-Numbers, 1913 to 1918.**—On the map facing page 60, index-numbers are given which represent the relative purchasing-power-of-money in each of the 100 towns in 1913 and 1914, and also shew the increase or decrease in 100 towns between November, 1913, and the same month in 1914, 1915, 1916, 1917, and 1918. In these index-numbers the weighted average expenditure in 1913 on food, groceries, and rent of five-roomed houses is taken as base (= 1000, see end of first column). The second column represents the proportional expenditure in each town on food and groceries only, so that the difference between the index-number in the first column and that in the second column for any town represents the relative expenditure on rent in November, 1913. In the third and fourth columns shewing purchasing-power-of-money index-numbers for November, 1914, the same base is retained, with the result that the figures shew not only relative cost in that month, but also the increase or decrease in cost during the periods indicated. Similarly, the index-numbers in the fifth and sixth, seventh and eighth, ninth and tenth, and eleventh and twelfth columns are again computed to the original base, so that they shew both the relative cost of food and groceries as between the several towns, and the variation in cost in each individual town since November, 1913. Thus it may be seen that in Sydney the purchasing-power-of-money index-number increased from 1109 to 1372, a rise of 23.7 per cent., between November, 1913, and November, 1918. The figures

shew, moreover, that the purchasing-power-of-money index-number in Sydney (1109) was 10.9 per cent. above the Commonwealth average (1000) in November, 1913, while twelve months later the index-number (1124) was 8.6 per cent. above the Commonwealth average (1035); in November, 1915, it was 1321, or 7.1 per cent. above the Commonwealth average (1234); in November, 1916, it was 1305, or 8.4 per cent. above the Commonwealth average (1204); in November 1917 it was 1352, or 9.2 per cent. above the Commonwealth average (1238), and in 1918 it was 1372 or 7.0 per cent. above the Commonwealth average (1282). Again, as regards cost of food and groceries only, the index-number in Sydney in 1913 was 634, or 2.1 per cent. above the Commonwealth average 621; in November, 1914, the corresponding number was 651; in November, 1915, 861; in November, 1916, 851; in November, 1917, 895, and in November 1918, 896, shewing that the cost increased from November, 1913, to November, 1918, by 41.3 per cent., and was then 0.6 per cent. above the Commonwealth average (891). The difference between the two index-numbers for Sydney in 1913 was 475, and the corresponding difference in 1918, 476. This shews that rent of five-roomed houses was approximately the same in November 1918 as in November 1913.

It has already been explained that the list of towns from which information as to prices and house rents are collected annually has been extended, and for November, 1915, 1916, 1917 and 1918 was 150. The index-numbers for the 50 additional towns for Nov., 1915, 1916, 1917 and 1918 are shewn in columns 13 to 20 on the map. They are computed to the same base as the 100 towns, and are therefore comparable with them in all respects. Thus, it may be seen that comparing Melbourne and Bright, the index-number for food and groceries in November, 1915, was 852 for Melbourne, and 921 for Bright, shewing that the cost of food and groceries was 8.1 per cent. higher in Bright than in Melbourne. Again, taking the difference between the two index-numbers for November, 1915, in each case, it may be seen that the index-number for rent of five-roomed houses was in Melbourne 388, and in Bright 197. Thus the rent of five-roomed houses was at that period 50.8 per cent. less in Bright than in Melbourne.

7. **Comparisons between Results obtained from Special Investigation and Quarterly Results.**—In order to ascertain the degree of accuracy to which the investigations as to variations in the purchasing-power of money made prior to 1912 for the capital towns only, and those made since the beginning of 1912 for the thirty towns, reflect the conditions obtaining throughout the States and Commonwealth, comparisons between the three sets of results were made in connection with the inquiry of Nov., 1913, 1914, 1915, 1916 and 1917. Similar comparisons are now made in connection with the 1918 inquiry. In the following table the first line in each section shews the results obtained, as to relative purchasing-power of money, from the special inquiry covering in all 150 towns. The second line gives the results obtained from the returns received for the month of November, 1918, for the five towns in each State from which regular monthly returns are received, and the last line the results obtained from the November returns for the capital towns only. The capital towns are, of course, included in each of the other two investigations, and the five towns in each State are included in the investigation for "all towns":—

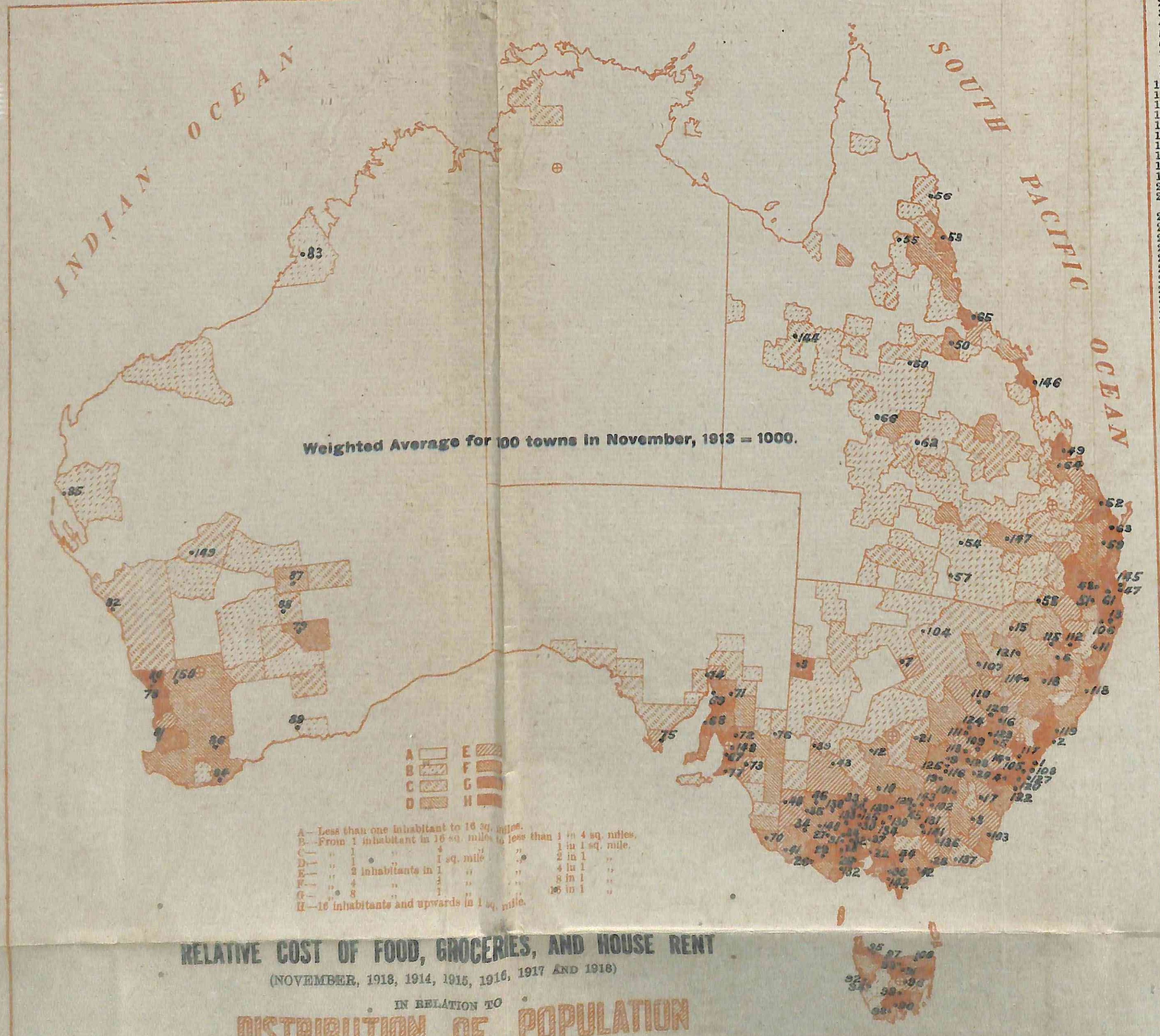
ES, AND HOUSE RENT

, 1917 AND 1918)

POPULATION

A.—Heavy Figures denote index-numbers for Food, Groceries, and Rent of 5-roome

B.—Light figures denote index-numbers for Food and Groceries only.


INDIAN OCEAN
SOUTH PACIFIC OCEAN
Weighted Average for 100 towns in November, 1913 = 1000.
A ▭ E ▨
B ▨ F ▨
C ▨ G ▬
D ▨ H ▬
A—Less than one inhabitant to 16 sq. miles.
B—From 1 inhabitant in 16 sq. miles to less than 1 in 4 sq. miles.
C— " 1 " 4 " " 1 in 1 sq. mile.
D— " 1 " 1 sq. mile " 2 in 1 "
E— " 2 inhabitants in 1 " " 4 in 1 "
F— " 4 " 1 " " 8 in 1 "
G— " 8 " 1 " " 16 in 1 "
H—16 inhabitants and upwards in 1 sq. mile.

RELATIVE COST OF FOOD, GROCERIES, AND HOUSE RENT

(NOVEMBER, 1913, 1914, 1915, 1916, 1917 AND 1918)

IN RELATION TO

DISTRIBUTION OF POPULATION

REFERENCE TO NUMBERS ON MAP.

		1913.		1914.		1915.		1916.		1917.		1918.	
		A	B	A	B	A	B	A	B	A	B	A	B
1	SYDNEY ..	1,109	634	1,124	651	1,321	861	1,305	851	1,352	895	1,372	896
2	Newcastle ..	960	627	972	648	1,228	847	1,173	856	1,229	888	1,279	907
3	Broken Hill ..	1,116	768	849	773	1,192	1,013	1,341	1,042	1,319	1,002	1,298	954
4	Goulburn.. ..	974	629	1,035	667	1,271	854	1,247	864	1,237	853	1,287	903
5	Bathurst	892	583	909	608	1,102	825	1,109	832	1,111	858	1,112	858
6	Armidale ..	875	601	948	618	1,148	863	1,150	834	1,237	886	1,263	899
7	Cobar	987	661	881	742	996	907	1,159	909	1,167	928	1,189	923
8	Cooma	861	638	975	662	1,221	962	1,131	884	1,154	881	1,195	898
9	Cootamundra ..	977	632	990	653	1,290	892	1,228	864	1,227	876	1,363	894
10	Deniliquin ..	836	606	943	675	1,199	924	1,148	874	1,173	894	1,190	904
11	Grafton	919	632	922	654	1,181	913	1,164	830	1,255	936	1,254	935
12	Hay	918	688	989	740	1,277	1,006	1,235	948	1,227	938	1,200	889
13	Lismore	931	695	1,042	723	1,213	860	1,183	842	1,299	949	1,353	938
14	Lithgow	915	628	938	625	1,227	894	1,212	884	1,229	906	1,263	912
15	Moree	981	681	1,041	696	1,256	937	1,225	906	1,375	928	1,406	960
16	Mudgee	824	569	895	640	1,131	863	1,162	878	1,165	878	1,175	888
17	Queanbeyan ..	1,052	650	930	635	1,213	906	1,169	873	1,204	928	1,194	914
18	Tamworth ..	902	599	1,066	649	1,231	874	1,306	876	1,255	901	1,247	911
19	Wagga Wagga ..	967	584	949	670	1,172	834	1,207	818	1,262	841	1,315	875
20	Yass	943	637	1,040	676	1,251	948	1,201	899	1,244	927	1,239	911
21	West Wyalong ..	966	631	952	669	1,130	890	1,177	906	1,229	910	1,278	935
22	MELBOURNE ..	964	568	1,019	628	1,240	852	1,207	807	1,229	814	1,304	861
23	Ballarat	767	566	845	636	1,084	874	1,012	815	1,016	806	1,051	842
24	Bendigo	815	573	873	641	1,068	843	1,030	814	1,047	797	1,090	826
25	Geelong	872	579	943	639	1,145	849	1,125	809	1,113	813	1,122	821
26	Warrnambool ..	865	581	914	620	1,152	868	1,100	804	1,117	816	1,172	863
27	Ararat	833	577	915	641	1,179	895	1,119	852	1,126	849	1,160	879
28	Bairnsdale ..	796	579	838	615	1,155	903	1,053	811	1,079	833	1,136	876
29	Camperdown ..	866	572	915	625	1,101	818	1,079	800	1,091	806	1,148	865
30	Castlemaine ..	773	547	911	636	1,137	862	1,089	831	1,079	822	1,138	864
31	Creswick ..	730	577	808	636	1,056	883	1,039	860	998	838	1,055	858
32	Daylesford ..	779	590	817	638	1,073	885	1,000	821	991	806	1,060	853
33	Echuca	811	607	857	672	1,061	876	1,009	827	1,064	852	1,069	862
34	Hamilton ..	871	594	926	636	1,275	924	1,102	847	1,153	825	1,160	860
35	Horsham ..	849	534	988	670	1,202	921	1,179	860	1,134	847	1,189	890
36	Korumburra ..	839	596	892	625	1,162	907	1,088	798	1,082	827	1,103	835
37	Kyneton	766	562	790	611	1,114	887	1,040	824	1,080	825	1,098	849
38	Maryborough ..	745	573	808	626	1,029	844	1,037	836	1,022	832	1,040	855
39	Mildura	972	608	1,053	696	1,272	939	1,330	907	1,346	921	1,356	896
40	Nhill	867	593	905	656	1,121	887	1,142	883	1,142	861	1,170	889
41	Portland	796	592	904	624	1,220	928	1,121	869	1,079	834	1,170	872
42	Sale	784	551	874	634	1,070	824	1,022	780	1,022	797	1,085	836
43	Swan Hill ..	975	618	1,000	649	1,279	874	1,204	827	1,257	859	1,288	858
44	Walhalla ..	790	687	808	693	1,025	897	954	852	966	873	982	880
45	Wangaratta ..	825	589	965	662	1,173	876	1,108	824	1,141	844	1,165	843
46	Warracknabeal ..	810	555	877	647	1,082	814	1,048	783	1,085	788	1,082	804
47	BRISBANE ..	878	583	919	627	1,166	878	1,050	763	1,139	838	1,205	901
48	Toowoomba ..	840	603	898	646	1,119	894	992	760	1,094	867	1,192	931
49	Rockhampton ..	863	617	920	668	1,184	945	1,063	817	1,090	838	1,178	924
50	Charters Towers	907	658	997	752	1,188	942	1,130	884	1,197	926	1,301	1,015
51	Warwick ..	822	590	863	635	1,077	863	987	773	1,090	861	1,175	922
52	Bundaberg ..	851	621	893	650	1,128	873	1,041	828	1,120	884	1,245	965
53	Cairns	1,067	704	1,140	809	1,248	913	1,299	929	1,376	987	1,420	1,044
54	Charleville ..	1,069	704	1,041	722	1,396	1,001	1,338	936	1,381	969	1,428	1,031
55	Chillagoe ..	1,153	834	1,052	892	1,319	1,000	1,112	920	1,083	981	1,166	1,064
56	Cooktown ..	937	745	1,003	799	1,125	959	1,072	931	1,110	979	1,150	1,018
57	Cunnamulla ..	992	724	1,047	779	1,321	1,065	1,124	894	1,126	896	1,239	959
58	Goondiwindi ..	958	630	968	680	1,190	935	1,044	808	1,135	864	1,198	917
59	Gympie	791	600	819	653	1,088	890	1,001	816	1,101	878	1,213	975
60	Hughenden ..	1,145	758	1,269	803	1,334	951	1,274	907	1,389	942	1,517	1,038
61	Ipswich	874	606	900	632	1,160	899	1,062	780	1,159	891	1,243	969
62	Longreach ..	1,047	728	1,123	823	1,200	945	1,194	939	1,323	966	1,346	1,024
63	Maryborough ..	762	584	830	624	1,133	913	1,045	825	1,049	858	1,131	920
64	Mount Morgan ..	880	637	951	696	1,204	949	1,103	842	1,194	901	1,223	920
65	Townsville ..	996	636	1,126	769	1,343	952	1,245	856	1,414	901	1,471	985
66	Winton	1,147	803	1,136	817	1,443	997	1,342	934	1,459	1,013	1,524	1,087
67	ADELAIDE ..	1,056	619	1,078	698	1,243	876	1,218	852	1,198	822	1,286	880
68	Kadina-Moonta ..	863	636	941	690	1,150	891	1,170	889	1,136	855	1,181	892
69	Port Pirie ..	972	644	978	720	1,189	922	1,239	893	1,245	894	1,329	921
70	Mount Gambier	816	568	894	614	1,100	838	1,067	804	1,065	801	1,115	852
71	Petersburg ..	996	613	1,099	742	1,214	895	1,196	890	1,187	880	1,209	888
72	Kapunda ..	847	618	901	690	1,066	893	1,057	878	1,011	833	1,056	871
73	Murray Bridge ..	911	618	1,004	640	1,210	856	1,211	854	1,175	830	1,213	846
74	Port Augusta ..	931	660	1,115	770	1,300	892	1,408	949	1,346	923	1,381	945
75	Port Lincoln ..	993	674	1,034	716	1,220	901	1,212	925	1,165	807	1,199	944
76	Renmark.. ..	985	666	1,041	696	1,222	897	1,203	872	1,278	880	1,335	926
77	Victor Harbour ..	924	637	1,103	720	1,192	863	1,223	864	1,100	845	1,264	868
78	PERTH	1,116	719	1,131	762	1,186	836	1,230	872	1,210	845	1,302	833
79	Kalgoorlie ..	1,277	912	1,344	988	1,451	1,036	1,459	1,030	1,483	1,054	1,438	1,018
80	Midland Junction	1,079	731	1,106	777	1,171	847	1,213	905	1,144	846	1,121	824
81	Bunbury	1,113	757	1,155	819	1,155	804	1,210	949	1,154	895	1,145	880
82	Geraldton ..	1,317	783	1,344	856	1,413	941	1,348	908	1,373	938	1,335	894
83	Broome	‡	942	‡	943	‡	944	‡	1,091	‡	1,160	‡	1,118
84	Albany	1,147	793	1,184	817	1,268	901	1,314	947	1,297	930	1,289	922
85	Carnarvon ..	1,343	960	1,316	965	1,298	961	1,447	1,033	1,493	1,079	1,457	1,040
86	Katanning ..	1,154	748	1,160	774	1,218	844	1,275	899	1,246	884	1,276	895
87	Leonora	1,265	1,042	1,324	1,069	1,381	1,139	1,374	1,119	1,371	1,116	1,359	1,104
88	Menzies	1,153	1,026	1,286	1,133	1,395	1,242	1,456	1,303	1,410	1,257	1,312	1,159
89	Ravensthorpe ..	1,147	1,019	1,150	1,010	1,260	1,119	[illegible]	[illegible]	1,363	[illegible]	[illegible]	1,084
90	HOBART ..	975	645	1,042	702	1,231	876	1,178	824	1,335	969	1,308	937
91	Launceston ..	911	596	909	668	1,209	868	1,165	825	1,246	900	1,260	898
92	Zeehan	984	717	923	758	1,141	975	1,069	909	1,188	985	1,162	997
93	Beaconsfield ..	769	654	806	710	1,083	987	988	885	1,054	965	1,015	925
94	Queenstown ..	938	724	1,062	746	1,314	982	1,248	915	1,258	977	1,324	1,007
95	Burnie	956	606	1,011	633	1,220	870	1,123	804	1,215	880	1,212	880
96	Campbell Town	701	599	756	660	‡	‡	940	815	1,039	902	1,050	916
97	Devonport ..	899	623	879	633	1,228	903	1,176	846	1,191	856	1,251	927
98	Franklin	909	654	919	703	‡	‡	1,066	836	1,229	923	1,237	921
99	Oatlands	889	628	874	682	961	788	976	804	1,085	907	1,013	885
100	Scottsdale ..	788	570	844	632	1,032	846	991	795	1,118	888	1,133	907
	Weighted Average ..	*1,000	*621	*1,035	*665	†1,234	†872	†1,204	†840	†1,238	†866	1,283	891

		1915.		1916.		1917.		1918.	
		A	B	A	B	A	B	A	B
	N. S. Wales—								
101	Adelong	1,116	922	1,016	837	996	855	1,046	874
102	Albury	1,174	868	1,169	847	1,225	874	1,261	888
103	Bega	1,137	873	1,100	864	1,163	892	1,150	879
104	Bourke	1,146	920	1,198	914	1,282	931	1,171	956
105	Bowral	1,135	841	1,152	859	1,252	869	1,247	909
106	Casino	1,165	884	1,102	822	1,192	930	1,171	929
107	Coonamble ..	1,202	883	1,263	944	1,224	937	1,339	938
108	Corrimal	1,078	854	1,118	901	1,139	915	1,135	905
109	Cowra	1,217	854	1,228	872	1,234	870	1,280	917
110	Dubbo	1,190	887	1,188	853	1,223	872	1,278	898
111	Forbes	1,131	886	1,083	834	1,136	871	1,215	908
112	Glen Innes ..	1,101	859	1,114	827	1,184	878	1,246	895
113	Grenfell	1,221	902	1,181	910	1,258	917	1,310	927
114	Gunnedah ..	1,252	870	1,244	868	1,258	875	1,271	888
115	Inverell	1,201	841	1,213	857	1,271	900	1,312	955
116	Junee	1,223	885	1,266	900	1,251	873	1,279	902
117	Katoomba ..	1,325	847	1,345	907	1,371	928	1,368	928
118	Kempsey ..	1,120	862	1,099	860	1,149	892	1,195	908
119	Maitland ..	1,087	822	1,148	830	1,178	868	1,182	870
120	Moss Vale ..	1,258	869	1,222	872	1,360	885	1,251	901
121	Narrabri	1,190	877	1,221	870	1,297	927	1,313	926
122	Nowra	1,060	856	1,100	845	1,205	886	1,172	917
123	Orange	1,210	834	1,155	846	1,202	850	1,219	888
124	Parkes	1,153	870	1,215	921	1,236	940	1,238	941
125	Temora	1,262	911	1,210	868	1,247	906	1,272	924
126	Wellington ..	1,197	859	1,193	902	1,244	887	1,233	920
127	Wollongong ..	1,141	838	1,194	881	1,226	904	1,227	902
128	Young	1,180	874	1,168	885	1,217	868	1,243	911
	VICTORIA—								
129	Beechworth ..	1,059	893	1,091	874	998	832	1,017	351
130	Benalla	1,153	879	1,083	834	1,107	848	1,142	855
131	Bright	1,118	921	1,044	833	1,078	861	1,094	868
132	Colac	1,161	856	1,117	845	1,131	847	1,213	879
133	Dunnolly ..	1,045	853	977	811	985	842	994	847
134	Euroa	1,071	857	1,068	845	1,025	818	1,039	815
135	Maldon	998	875	1,003	846	976	848	993	853
136	Omeo	1,158	1,005	1,068	914	1,122	949	1,086	920
137	Orbost	1,162	890	1,167	864	1,190	871	1,201	892
138	St Arnaud ..	1,138	946	1,071	864	1,078	877	1,161	872
139	Shepparton ..	1,149	859	1,151	823	1,146	831	1,171	871
140	Stawell	1,186	942	1,070	834	1,106	848	1,136	878
141	Wandiligong ..	1,081	954	1,055	870	977	870	1,041	939
142	Wonthaggi ..	1,236	917	1,344	897	1,269	873	1,295	912
143	Yackandandah ..	1,038	873	983	830	962	809	1,074	854
	QUEENSLAND—								
144	Cloncurry ..	1,447	1,032	1,367	980	1,615	1,088	1,646	1,178
145	Hamilton ..	1,279	896	1,222	775	1,294	847	1,460	949
146	Mackay	1,227	895	1,155	848	1,230	905	1,334	971
147	Roma	1,288	937	1,207	869	1,256	905	1,396	1,016
	S. AUSTRALIA—								
148	Gawler	1,160	873	1,175	863	1,063	837	1,123	864
	W. AUSTRALIA—								
149	Cue	1,315	1,002	1,316	1,090	1,280	1,033	1,207	984
150	Northam ..	1,259	879	1,343	963	1,348	1,176	1,238	901

* Weighted average of 100 Towns.
† Weighted average of 150 Towns.
‡ Not available.

A.—Heavy Figures denote index-numbers for Food, Groceries, and Rent of 5-roomed Houses.
B.—Light figures denote index-numbers for Food and Groceries only.

Relative Purchasing-Power-of-Money Index-Numbers. Comparisons between Results obtained from Special Investigation and from Ordinary Periodic Returns, November, 1918.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	W'gh't Average.
FOOD AND GROCERIES.							
All Towns*	1,011	962	1,050	990	991	1,043	**1,000**
Five Towns in each State	1,018	968	1,037	998	989	1,055	**1,000**
Capital Towns only ..	1,019	979	1,024	1,001	947	1,066	**1,000**
RENT, 5-ROOMED HOUSES.							
All Towns*	1,111	996	775	997	948	858	**1,000**
Five Towns in each State	1,121	999	716	967	921	842	**1,000**
Capital Towns only ..	1,097	1,023	703	937	852	854	**1,000**
FOOD AND GROCERIES AND RENT.							
All Towns*	1,042	972	966	992	977	986	**1,000**
Five Towns in each State	1,050	978	936	989	967	988	**1,000**
Capital Towns only ..	1,045	993	918	980	916	9.6	**1,000**

* For list of towns included, see Table on pages 53 to 56.

As regards variations in cost of living for November, 1914. 1915, 1916, 1917 and 1918, compared with November, 1913, the index-numbers for November, 1914, 1915, 1916, 1917 and 1918, computed from the three sets of data mentioned above, are shewn in the following table :—

Variations in Purchasing-Power-of-Money Index-Numbers, Results obtained from Annual Inquiry for extended List of Towns and from Periodic Monthly Inquiries, November, 1913, 1914, 1915, 1916, 1917 and 1918.

Particulars.	1913.	1914.	1915.	1916.	1917.	1918.
FOOD AND GROCERIES.						
All Towns	**1,000**	1,072	1,405	1,353	1,395	1,435
Five Towns in each State	**1,000**	1,073	1,404	1,354	1,390	1,430
Capital Towns only ..	**1,000**	1,072	1,408	1,358	1,397	1,440
RENT OF 5-ROOMED HOUSES.						
All Towns *	**1,000**	974	952	959	981	1,031
Five Towns in each State	**1,000**	969	961	966	987	1,039
Capital Towns only ..	**1,000**	975	955	961	980	1,033
FOOD, GROCERIES, AND RENT.						
All Towns	**1,000**	1,035	1,234	1,204	1,238	1,282
Five Towns in each State	**1,000**	1,033	1,232	1,203	1,234	1,278
Capital Towns only . ..	**1,000**	1,032	1,223	1,196	1,227	1,274

NOTE.—The figures in the vertical columns do not, of course, shew relative purchasing-power-of-money index-numbers. They shew merely the increase or decrease in cost in November of each year, compared with November, 1913, for "All Towns," "Five Towns in each State," and "Capital Towns only" respectively.

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The index-numbers in the first line of each part of the latter table refer to 100 towns for November, 1913 and 1914, and to 150 towns for November, 1915, 1916, 1917 and 1918. The general closeness of the results shewn in these two tables is remarkable, and is a further confirmation of the conclusions previously stated, that the index-numbers published for the capital towns only, for the years prior to 1912, and for the thirty towns for 1912 and subsequent years, reflect, with a substantial degree of accuracy, the variations in the purchasing-power-of-money index-numbers, not only in each State separately, but also throughout the Commonwealth as a whole. The second table also shews that during the period November, 1913, to November, 1918, the average cost of food and groceries throughout the Commonwealth increased over 40 per cent., house rents increased over 3 per cent., the aggregate result shewing an increase of approximately 28 per cent.

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SECTION VI.

EXPENDITURE ON LIVING, WESTERN AUSTRALIA, 1917-18.

1. **General.**—In September, 1917, the Government of Western Australia appointed a Royal Commission of Inquiry into the cost of the necessaries of life in that State. This Commission presented an interim report in January, 1918, and its final report at the end of March, 1918. One of the terms of reference in the proclamation ordering this inquiry instructed the Commission to investigate the effects of recent fluctuations of prices upon the standard of living of wage-earners and others. Steps were taken to obtain from householders, budgets shewing their weekly expenditure in detail. Forms were prepared and widely distributed. An organiser was appointed for one month to tour the State, giving lectures and addresses in all the principal centres, and bringing the importance of the budgets before all classes. To quote the words of the final report of the Commission, "the response has been utterly disappointing, the householders sending in returns being too few in number to admit of any safe general conclusions being drawn." Before it was known how far the effort to secure these returns had been successful, the Commonwealth Statistician (Mr. G. H. Knibbs) was requested to undertake the necessary analyses of the returns. The Minister for Home and Territories (Hon. P. McM. Glynn, K.C., M.P.) sanctioned the granting of the request, and the budgets were accordingly forwarded by the Commission to the office of the Commonwealth Statistician. The report when completed was forwarded to the Western Australian Government. At the request of that Government it is published in the following pages.

2. **The Householders' Budgets.**—The budgets distributed made provision for the record of income, expenditure, and other particulars for a single week, and householders were asked to fill in the necessary particulars on thirteen of these, viz., for a period of thirteen weeks. The budgets were to be forwarded at the *end of each week* to the Secretary of the Royal Commission. Each budget contained four pages. On the first page particulars were to be inserted as to name, address, age, income, and occupation of all the inmates of the house. The second and third pages provided for the filling in of details of expenditure and also quantities purchased of articles of food for each day of the week. A footnote to these pages gave instructions that all foodstuffs were to be weighed and the weights inserted in the column provided. On the fourth page provision was made for recording expenditure on housing accommodation, fuel and light, drapery, clothing and boots, other miscellaneous expenditure, and for recording particulars of foodstuffs obtained otherwise than by purchase.

Tabulation and Classification.—The original intention was to distinguish between metropolitan and country results, and between occupations, but owing to the very small number of budgets returned the classification was necessarily restricted, and this was found to be impracticable. The returns have therefore been classified according to income only.

4. **Family Conditions.** (i.) *General Membership.*—It has already been stated that only a small number of those to whom budgets were distributed completed the full thirteen weeks' record. A number of other families, however, kept the record for varying periods of from one week upwards. The total number of families who sent in returns which could be tabulated according to family conditions were only 66 in number. The following table shews the component members of these families, classified according to income :—

Membership of Families comprised in Returns.

Families having Weekly Incomes of—	Total Families.	Husbands.	Wives.	Children.	Dependents.	Total Persons	Average Persons per Family.
Under £3	3	3	3	13	—	19	6.33
£3 and under £3 10s.	17	17	16	45	3	81	4.76
£3 10s. and under £4	16	16	16	54	1	87	5.44
£4 and under £4 10s.	11	11	10	42	3	66	6.00
£4 10s. and under £5	9	9	9	39	—	57	6.33
£5 and over	10	10	10	44	6	70	7.00
All Families	66	66	64	237	13	380	5.76

It will be seen that of the 66 families none was without a husband, and only two without a wife.

(ii.) *Conditions as to Children.*—The following table shews the average number of children in each income-group, together with the number of children earning wages, and those not earning wages (*i.e.*, either at home or at school), classified in age-groups. The table also shews the number of children 14 years of age and over, and under 14 years :—

Conditions of Families as to Children.

Families having Weekly Incomes of—	No. of Families having Children.	No. of Children.	Average Children per Family	Children at Work.			Children at Home or at School.						No. of Children.		Average, 14 Years and Over.	Average, Under 14 Years.
				17 years and over	13 years and under 17	Und'r 13 years	17 years and over	13 years and under 17	10 years and under 13	6 years and under 10	2 years and under 6	Und'r 2 years	14 years and over	Und'r 14 years		
Under £3	3	13	4.33	—	—	—	—	—	4	5	2	2	—	13	—	4.33
£3 & under £3 10s.	15	45	3.00	—	—	—	—	3	8	10	14	10	2	43	.13	2.87
£3 10s. & under £4	14	54	3.86	—	3	—	—	5	9	16	14	7	6	48	.43	3.43
£4 & under £4 10s.	11	42	3.82	2	2	—	—	4	5	10	15	4	6	36	.55	3.27
£4 10s. & under £5	9	39	4.38	2	—	—	—	6	6	12	10	3	6	33	.67	3.66
£5 and over ..	10	44	4.40	7	5	—	1	5	5	7	9	5	17	27	1.70	2.70
All Families	62	237	3.82	11	10	—	1	23	37	60	64	31	37	200	.60	3.22

The number of children under 6 years of age numbered 95, or nearly 40 per cent. of the total number of children. This result is almost identical with that obtained in the 1910-11 inquiry, and the November, 1913 inquiry of the Commonwealth Statistician.

The proportion of the children at work (numbering 21) was 8.9 per cent. of the total ; while the number of those at home or at school was 216, or 91.1 per cent. of the total.

5. **Incomes.** (i.) *Sources of Incomes.*—The sources of the family incomes are shewn in the following table, classified according to income. Of the total number of families included, 44 (66⅔ per cent.) derived their

total income from the husband only; while 22 (33⅓ per cent.) received, in addition to the income of the husband, income from one or more of the other sources indicated in the table.

Sources of Incomes.

Families having Weekly Incomes of—	Families having Incomes from Husbands only.		Families having Incomes from more than one Source.				Total Families having Incomes from more than one Source.		Total Number of Families
	No.	Percentage on all Families in Group	From Husband and other Sources.	From Wife and other Sources.	From Children and other Sources.	Miscellaneous and other Sources.	No.	Percentage on all Families in Group	
Under £3 ..	3	100.00	—	—	—	—	—	—	3
£3 & under £3 10s.	16	94.12	1	—	—	1	1	5.88	17
£3 10s. & under £4	12	75.00	4	1	3	1	4	25.00	16
£4 & under £4 10s.	5	45.45	6	1	3	2	6	54.55	11
£4 10s. & under £5	6	66.67	3	1	2	—	3	33.33	9
£5 and over	2	20.00	8	—	7	2	8	80.00	10
All Families	44	66.67	22	3	15	6	22	33.33	66

(ii.) *Average Incomes.*—The following table shews the average weekly income of the budgets of 65 families tabulated for each of the income-groups specified, and also the general average for all the budgets. Owing to insufficiency of information with regard to income, the budgets of one family had to be omitted:—

Average Incomes of Families.

Particulars.	Weekly Budget of Families having Incomes of—						General Average.
	Under £3.	£3 & under £3 10s.	£3 10s. & under £4.	£4 & under £4 10s.	£4 10s. & under £5.	£5 & over.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Average Weekly Income	2 18 8	3 3 7	3 15 2	4 3 9	4 12 3	6 16 11	4 9 4
Aver. Persons in Family	5.50	4.76	5.44	6.00	6.33	7.00	5.72

The general averages of the incomes in the two inquiries conducted by the Commonwealth Statistician were in 1910-11 £4 13s. 1d., and in 1913 £3 16s. 8d.

6. **Expenditure.** (i.) *Relative to Income.*—The total number of weekly budgets returned by the 65 families was 483, and in the following table the average weekly expenditure furnished in these 483 budgets is summarised, together with the average incomes:—

Relation of Income to Expenditure.

Particulars.	Weekly Budget of Families having Incomes of—						General Average for all Families.
	Under £3.	£3 & under £3 10s.	£3 10s. & under £4.	£4 & under £4 10s.	£4 10s. & under £5.	£5 & over.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Income	2 18 8	3 3 7	3 15 2	4 3 9	4 12 3	6 16 11	4 9 4
Expenditure	3 11 7	3 9 4	4 2 9	4 15 5	5 3 8	6 1 5	4 12 7
Difference	—12 11*	—5 9*	—7 7*	—11 8*	—11 5*	15 6	—3 3*

* The negative sign indicates an excess of expenditure over income.

The results obtained in the above table are so far unsatisfactory as to raise doubts whether the budgets received can possibly be regarded as representative. There is an excess of expenditure over income in all the groups excepting the last—£5 and over. The period to which many of the returns relate includes the months of December and January; two months in which probably the expenditure is greater than usual owing to the holiday season, and during this season there may be an absence of income for several days. Whether these factors are sufficient to account for the unsatisfactory result of this tabulation it is difficult to ascertain. In none of the budgets received was there any apparent attempt made by those filling them in to compare the income and expenditure. Consequently those furnishing the budgets offer no explanation on the matter. *The results shewn in the table cannot be regarded as representative, in the aggregate, of the sections of the community to which they refer.* The following tabulations of expenditure are necessarily subject to the same uncertainty in view of the unsatisfactory result shewn in the preceding table.

(ii.) *General Analysis of Expenditure.*—Selecting what may be considered as the four most important heads of expenditure, viz., housing, food, clothing, and fuel and light, and grouping all other expenditure under the heading "Other Items," an analysis of the average weekly expenditure is given in the following table. The results are shewn both as actual averages and as percentages on the total expenditure :

Analysis of Average Weekly Expenditure per Family.

Weekly Budgets having Incomes of—	Housing.*	Food.	Clothing.	Fuel and Light.	Other Items.	Total Expenditure.	Average Persons per Family.
			WEEKLY EXPENDITURE.				
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Under £3	0 1 5	2 0 8	0 10 6	0 2 1	0 16 11	3 11 7	5.50
£3 and under £3 10s. ..	0 5 5	1 12 0	0 10 11	0 2 0	0 19 0	3 9 4	4.76
£3 10s. and under £4 ..	0 10 8	1 15 5	0 12 0	0 2 9	1 1 11	4 2 9	5.44
£4 and under £4 10s. ..	0 4 3	2 6 10	0 13 9	0 2 8	1 7 11	4 15 5	6.00
£4 10s. and under £5 ..	0 5 4	2 5 11	0 19 2	0 2 4	1 10 11	5 3 8	6.33
£5 and over	0 12 10	2 5 4	0 17 1	0 4 9	2 1 5	6 1 5	7.00
General Average ..	0 7 11	2 0 3	0 14 7	0 2 11	1 6 11	4 12 7	5.72
			PERCENTAGE ON TOTAL EXPENDITURE.				
	%	%	%	%	%	%	
Under £3	1.98	56.81	14.67	2.91	23.63	100.00	5.50
£3 and under £3 10s. ..	7.81	46.15	15.75	2.89	27.40	100.00	4.76
£3 10s. and under £4 ..	12.89	42.80	14.50	3.32	26.49	100.00	5.44
£4 and under £4 10s. ..	4.45	49.08	14.41	2.80	29.26	100.00	6.00
£4 10s. and under £5 ..	5.15	44.29	18.49	2.25	29.82	100.00	6.33
£5 and over	10.57	37.34	14.07	3.91	34.11	100.00	7.00
General Average ..	8.55	43.48	15.75	3.15	29.07	100.00	5.72

* The figures given refer to all families, including those who owned their own houses, or who lived rent free; no less than 196 of the family weekly budgets contain no expenditure on rent. The average rent paid by those who rented houses varies from 6s. 3d. to 9s. 5d., while the average is 8s. 7d.

Disregarding the expenditure under the heading "Other Items," the cost of food is by far the most important consideration, amounting to over 43 per cent. of the total expenditure. Next comes clothing (15.75 per cent.), followed by housing (8.55 per cent.); while the expenditure on fuel and light amounts to 3.15 per cent. As regards clothing it may be seen that with the exception of the group "£4 10s. and under £5," the percentage of expenditure is fairly even, though the actual amounts vary from 10s. 6d. per week to 17s. 1d. per week. The expenditure on fuel and light is fairly even, except in the last group, where the average is practically double the average of any other group.

Expenditure on food varies from £1 12s. to as much as £2 6s. 10d. per week. The result given for the first group (under £3) is unsatisfactory. It has already been shewn that the income is stated to be on the average under £3, while the expenditure is £3 11s. 7d. The probability appears to be that either the expenditure has been inflated or that there are some sources of income not included in the returns. With regard to the expenditure on housing accommodation, the fact that in many cases no rent at all is paid, while in others only nominal amounts are paid either in the form of instalments or interest, precludes the possibility of deducing any conclusions of value.

Compared with the 1913 inquiry of the Commonwealth Statistician, the average weekly expenditure on all items is greater by the amount 19s. 1d. The expenditure on housing accommodation is 1s. 2d., and on fuel and light 5d. per week less; while the other items are all greater: food 10s., clothing 4s. 7d., and other items, 6s. 1d. per week more.

[illegible]) *Expenditure on Clothing.*—In the budgets provision was made for recording separately the expenditure upon clothing for husband, wife and children:—

Expenditure on Clothing: Amounts Expended by Men, Women, and Children.

Weekly Budgets having Incomes of—	No. of Families.	No. of Budgets	Average Amount Spent Weekly on Clothing.									
			Men.		Women.		Children.		Household Linen, etc.		Total.	
			s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Under £3	2	17	1	11	2	8	5	11	—		10	6
£3 and under £3 10s.	17	104	2	5	4	1	3	10	0	7	10	11
£3 10s. and under £4	16	116	2	0	4	11	4	1	1	0	12	0
£4 and under £4 10s.	11	76	2	10	4	9	5	1	1	1	13	9
£4 10s. and under £5	9	68	5	6	5	11	7	3	0	6	19	2
£5 and over	10	102	3	5	8	7	3	4	1	9	17	1
	65	483	3	3	5	5	4	10	1	1	14	7

It will be seen that of the total expenditure of 14s. 7d., 3s. 3d. is spent on the average by the husband, 5s. 5d. by the wife, 4s. 10d. on the children, and 1s. 1d. for household linen, etc. As already stated the average number of children per family was 3.82, therefore the expenditure per child for clothing amounted on the average to just over 1s. 2d.

(iv.) *Expenditure on Other Items.*—The table hereunder shews the average weekly expenditure per weekly budget on items other than housing, food, clothing, and fuel and light. The percentage of each item on the total expenditure is also shewn. It may be seen that, disregarding the last item (miscellaneous) the most important item in the table is expenditure on insurance, which is followed in the order named by medical expenses; charity; other household requisites; contributions to benefit societies; fares; sports and amusements; tobacco, soap, starch, etc., equal; alcoholic beverages; and education fees and books. Compared with the 1913 inquiry of the Commonwealth Statistician, the expenditure on all the items shews an increase with the exception of education fees and books. The percentages of the expenditure approximates very closely to those of the 1913 inquiry.

Analysis of "Miscellaneous Expenditure": Amounts and Percentage on Total Expenditure.

EXPENDITURE.

Particulars.	WEEKLY BUDGETS HAVING INCOMES OF—												General Average.	
	Under £3.		£3 & under £3 10s.		£3 10s. & under £4.		£4 & under £4 10s.		£4 10s. & under £5.		£5 and over.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Soap, Starch, etc.	1	1	0	9	1	2	1	4	1	5	1	3	1	2
Other Household Requisites	0	5	1	2	0	8	2	0	1	1	3	10	1	9
Tobacco, etc.	1	1	1	5	1	1	1	0	1	6	0	11	1	2
Alcoholic Beverages	0	11	0	10	1	4	1	4	1	3	0	7	1	0
Fares	—		0	7	1	2	0	11	2	5	2	6	1	5
Insurance	0	8	1	8	1	4	3	4	1	1	5	7	2	7
Contributions to Benefit Societies	0	10	1	3	1	10	2	4	1	7	1	3	1	7
Education Fees and Books	0	10	0	6	0	4	0	6	1	8	0	2	0	7
Medical	1	4	3	0	1	3	1	6	2	2	2	10	2	2
Sports and Amusements	0	2	1	1	1	0	0	4	0	8	2	8	1	2
Charity, etc.	0	2	0	9	1	9	1	3	1	10	3	9	1	10
Miscellaneous Expenditure	9	5	6	0	9	0	12	1	14	3	16	1	10	6
Total	16	11	19	0	21	11	27	11	30	11	41	5	26	11

PERCENTAGE ON TOTAL EXPENDITURE.

Particulars.	Under £3.	£3 & under £3 10s.	£3 10s. & under £4.	£4 & under £4 10s.	£4 10s. & under £5.	£5 and over.	General Average.
	%	%	%	%	%	%	%
Soap, Starch, etc.	1.51	1.08	1.41	1.40	1.37	1.03	1.26
Other Household Requisites	.58	1.68	.81	2.10	1.04	3.16	1.89
Tobacco, etc.	1.51	2.05	1.31	1.05	1.45	.75	1.26
Alcoholic Beverages	1.28	1.20	1.61	1.40	1.20	.48	1.08
Fares	—	.84	1.41	.96	2.33	2.06	1.53
Insurance	.93	2.40	1.61	3.49	1.04	4.60	2.79
Contributions to Benefit Societies	1.17	1.80	2.22	2.45	1.53	1.03	1.71
Education Fees and Books	1.17	.72	.40	.52	1.61	.14	.63
Medical	1.86	4.33	1.51	1.57	2.09	2.33	2.34
Sports and Amusements	.23	1.56	1.21	.35	.64	2.20	1.26
Charity, etc.	.23	1.08	2.11	1.31	1.77	3.09	1.98
Miscellaneous Expenditure	13.16	8.66	10.88	12.66	13.75	13.24	11.34
Total	23.63	27.40	26.49	29.26	29.82	34.11	29.07

7. **Standard of Living.** (i.) *General.*—The terms of reference in the proclamation ordering the inquiry instructed the Commission to investigate the effects of recent fluctuations of prices upon the *standard of living of wage earners and others.* The Budgets distributed—it was expected

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would provide the necessary data for arriving at some conclusion as to the present standard of living. The budgets received, numbering 498, have been carefully analysed in order to see how far they indicate the standard of living at the time the inquiry was made. It is, of course, impossible to compare this with the standard of any previous period, as no such inquiry has previously been held. All that is possible, therefore, is to compare it with the standard furnished by experts and others. In the course of the inquiry several expert witnesses were called to give evidence as to the amounts of various food stuffs necessary to provide for the proper nourishment of the family. It is customary in dealing with this matter to give the standard for a "man" unit, and when comparing the consumption of families with each other to reduce them to their equivalent "man" units.

The weights applied to each sex and age group in arriving at this result are those used for a somewhat similar purpose by the Commonwealth Statistician in his inquiries of 1910-11 and 1913. These weights were selected after a careful study had been made of reports and other available information bearing on the matter, both from a physiological, economic, and anthropometric standpoint.

The weights selected for each class were as follows :—

Particulars.	Males.		Females.		Children.			
Age in years	Over 17	13–16	Over 17	13–16	10–12	6–9	2–5	Under 2
Weight	100	80	80	70	65	50	35	20

By using these relative numbers the total number of persons in each income group can be reduced to the equivalent "man" units and are as follows :—

Families having Weekly Incomes of—	Total Families.	No. of Weekly Budgets.	Total Persons.	Average Persons per Family.	Total "Man" Units.	Average "Man" Units per Family.
Under £3	3	32	19	6.33	147.80	4.29
£3 and under £3 10s. ..	17	104	81	4.76	334.40	3.23
£3 10s. and under £4 ..	16	116	87	5.44	395.90	3.41
£4 and under £4 10s. ..	11	76	66	6.00	291.95	3.84
£4 10s. and under £5 ..	9	68	57	6.33	304.85	4.48
£5 and over..	10	102	70	7.00	458.64	4.50
All Families ..	66	498	380	*5.76	1933.54	*4.00

* Weighted average.

It should be observed that one family which has been excluded in the analysis as to income and expenditure is included in the analysis as to standard of living.

(ii.) *Food Requirements.*—The President of the English Board of Trade instructed a Committee of the Royal Society to Report upon the Food Supply of the United Kingdom. This Committee presented its report in 1917*. The Committee in the first place investigated the extent and character of the food supply in normal times. Included in this investigation was the question of the standard requirements of the normal adult male as regards each of the constituents of food requisite for healthy activity. The report states: " A full consideration of the dietary requirements of a nation for the most part engaged in active work has convinced the Committee that these requirements cannot be satisfactorily met on a less supply in the food as purchased than 100 grammes protein, 100 grammes fat, 500 grammes carbohydrate, equal approximately to 3400 calories per ' man' per day, a ' man' being an average workman, doing an average day's work." This was the standard adopted by the Committee referred to.

During the sittings of the Royal Commission in Western Australia, Professor Dakin stated during the course of his evidence that the standard diet per " man " unit should be 100 grammes protein, 80 grammes fat, 600 grammes carbohydrate, equal approximately to 3620 calories per " man" per day.

he weekly budgets furnished in the investigation have been carefully analysed in order to ascertain the amounts of protein, fat, and carbohydrate contained in the food consumed. In this analysis the values given in the report of the Committee of the Royal Society have been adopted.

iii.) *Standard of Living.*—The following table gives for each income-group the respective average amounts of protein, fat, and carbohydrate contained in the food consumed, as well as the average calories or heat-units.†

Average Amounts per " Man" Unit per Day of Protein, Fat and Carbohydrate, and Calorific Values of the same, in Various Income-Groups.

Income Groups.	OCCUPATIONS. (Weekly Budgets.)		Protein.	Fat.	Carbo-hydrate.	Calories.
	Sedentary.	Manual Workers.				
			Grammes.	Grammes.	Grammes.	
Under £3	—	32	113	110	520	3,613
£3 and under £3 10s. ..	14	90	110	113	578	3,876
£3 10s. and under £4 ..	15	101	104	116	524	3,654
£4 and under £4 10s. ..	—	76	111	129	528	3,822
£4 10s. and under £5 ..	5	63	105	124	510	3,673
£5 and over	56	46	90	107	462	3,261
All Groups	90	408	104	116	517	3,622

The above table shews that taking the average of all the budgets submitted, the standard of living so far as it relates to food is practically equal to the estimate of Professor Dakin, and higher than that formulated by the Committee of the Royal Society.

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* Cd. 8421.

† A calorie is the quantity of heat required to raise a kilogramme of water one degree Centigrade and it is reckoned that, in so far as they are oxidised in the living body, proteins and carbohydrates give rise to 4.1 calories, and fat to 9.3 calories per gramme.

The only group which falls below either estimate is that relating to incomes of £5 and over per week, and it will be seen that in this group the percentage of "sedentary" workers is considerably greater than in any other group. In this connection it may be pointed out that the consensus of expert opinion points to the fact that persons not engaged in muscular work require less calories than those so engaged. Professor Dakin, during the sittings of the Royal Commission, made the assertion that a clerk should not require more than 2500 or 2700 calories.

(iv.) *Quantities of Various Foods consumed.*—During the course of his evidence, Professor Dakin furnished what he considered to be an appropriate menu per "man" unit per day, as follows :—

Bread ..	1 lb.	Meat ..	½ lb.
Oatmeal ..	2 ozs.	Beans ..	¼ lb.
Rice ..	2 ozs.	Potatoes	½ lb.
Milk ..	½ pint	Jam ..	1 oz.
Butter ..	2 ozs.	Syrup ..	1 oz.
Sugar ..	2 oz.		

The following table gives a comparison of this menu with the average of the 498 weekly budgets analysed —

Consumption of Food per "Man" Unit per Day. Professor Dakin's Estimate of Requirements and Average of the Budgets Analysed.

Particulars.	Professor Dakin's Estimate.	Average of the Budgets Analysed.
	lb.	lb.
Cereals	1.25	1.10
Meat	.50	.48
Dairy Products ..	.78	.76
Vegetables	.75	.74
Fruit	.06	.29
Sugar and Molasses ..	.19	.27
Fish	—	.03

It will be seen that the average per "man" unit actually consumed according to the analysis of the budgets, approximates very closely to Professor Dakin's estimate. The only item in which there is any appreciable difference is fruit, and this is probably accounted for by the fact that the inquiry was made during a period when fruit was in season and readily procurable at reasonable prices. Professor Dakin estimated that the menu submitted by him if carried out for a week would give 3679 calories a day. It will be seen that the actual average consumption which approximates so very closely to the menu referred to, also gives calorific values practically similar, as would obviously be expected.

SECTION VII.—WHOLESALE PRICES.

1. **General.**—The results of an investigation into wholesale prices in Melbourne from 1861 to 1917 were given in some detail in Reports Nos. 1, 2, 5, 6, 7 and 8. In this Section results are now included for the year 1918.

The data upon which the investigation is based were obtained mainly from reports of Melbourne market prices, published in the ordinary press, and in special trade reviews. In any case of doubt as to the reliability of the figures, the records thus obtained were verified by reference to well-known and important business firms, dealing in the articles in question. Every care was taken to ensure that the prices quoted for each article refer to a uniform quality, and, in cases where more than one source of information was utilised for obtaining prices of single commodities, special precautions were taken to ensure substantial continuity of quality or grade. In most cases, monthly prices were obtained (but where daily or weekly quotations were available, these were adopted), and arithmetic averages for the several years were computed. In regard, however, to a few commodities, such as coal, tea, cotton and wool, since monthly prices were not available for back years, yearly averages, based in each case upon expert opinion, were secured.

It was at first intended to obtain records, on the lines indicated, for a uniform list of commodities for the capital town of each State. Owing, however, to the large amount of work involved, and to the difficulty experienced in obtaining regularly the prices of anything like a uniform representative list of commodities from the papers and journals published in some of these towns, this idea has for the present been abandoned.

2. **Commodities Included and Methods Adopted.**—Retail prices have the advantage that a comparatively small list of commodities suffices to represent a large proportion of the average expenditure. They are, however, subject to the difficulty that their variations depend largely upon local conditions, and it is, therefore, ordinarily necessary to collect the data over a wide area. Wholesale prices, on the other hand, are fixed usually at one or two centres, but a much larger list of commodities must be covered.

The index-numbers up to the year 1911 are based on the prices of eighty commodities, but since that year the number has been increased to ninety-two.* The methods followed for the computation of the wholesale price index-numbers are the same as those adopted in regard to retail prices. The commodities included, the units of measurement for which the prices are taken, and the mass-units, indicating the relative extent to which each commodity, in the units of measurement specified, is used or consumed, are shewn in the following statement.

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* In the computation of the index-numbers for years prior to 1911, the aggregate expenditure on 80 commodities in 1911 is taken as base (=1000), while for later years the aggregate expenditure on 92 commodities in 1911 is taken.

Melbourne Wholesale Prices, Commodities included, Units of Measurement, and "Mass-Units."

Commodity.	Brand.	Unit.	Mass Unit.
GROUP I.			
Iron—			
Pig	M'x'dNos.	ton	6½
Rod and Bar	Stafford	,,	3½
Angle and T	,,	,,	3½
Plate	,,	,,	3
Hoop	,,	,,	½
Galvanized	26 gauge	,,	5
Tinned Plates	I.C. Coke	cwt.	60
Fencing Wire	No. 8	ton	6
Zinc, Sheet		,,	1
Lead, Sheet		,,	¾
,, Pipes		,,	½
Copper Sheet		lb.	2,000
Quicksilver		,,	12
Coal	Newc'stle on Wharf	ton	600
		Total	2,702¼
GROUP II.			
Branbags		doz.	110
Cornsacks		,,	250
Woolpacks		each	200
Leather, Waxed Kip		lb.	600
Waxed Split		,,	600
Medium Crop		,,	600
Cotton	Raw	,,	24,000
Wool	Greasy	,,	12,200
Twine	Reaper and Binder	,,	150
Tallow	Mutton Prime	ton	1¾
		Total	38,711¾
GROUP III.			
Wheat		bushel	500
Flour		ton	48
Bran		,,	14
Pollard		,,	14
Oats	Feed	bushel	1,200
Oatmeal	Colonial	ton	1½
Barley	Malting	bushel	150
,,	Feed	,,	100
Maize		,,	1,000
Hay	BestM'ng'r	ton	135
Chaff	Good oaten	,,	135
Straw	Victorian	,,	25
Peas		bushel	55
Potatoes		ton	40
Malt	Victorian	bushel	140
Onions		ton	3
		Total	3,560½
GROUP IV.			
Ham		lb.	800
Bacon		,,	3,200
Cheese		,,	1,500
Butter	Best Fresh	,,	9,500
Lard	In Bladders	,,	200
Eggs	Ordinary	doz.	1,800
Honey		lb.	600
Beeswax		,,	40
Condensed Milk	Bacchus Marsh	doz. lb.	160
		Total	17,800

Commodity.	Brand.	Unit.	Mass Unit.
GROUP V.			
Currants		lb.	1,400
Raisins	Sultanas	,,	1,400
Herrings	1-lb. fresh	doz. 1 lb. tins	50
Salmon	1 lb. tall Alaska	,,	50
Sardines	Halves	doz.halves	100
Coffee	Plantation	lb.	200
Cocoa	Taylor's	,,	100
Sugar	No. 1A	ton	22
Macaroni		lb.	200
Sago		cwt.	7
Rice	Patna	ton	2
Salt	Liverpool fine	,,	7
Salt	Rock	,,	1
Mustard	Coleman's	doz. 1 lb. tins	6
Starch	Coleman's White	lb.	100
Blue	Keen's	,,	50
Matches	Aust'ln. Safety	gross	90
Candles	Gouda	lb.	1,600
Tobacco	Two Seas in Po'ket Pcs.	,,	1,300
Tea		,,	3,000
Kerosene		gallon	1,700
		Total	11,385
GROUP VI.			
Beef	Average quality.	100 lbs.	390
Mutton	,,	lb.	33,000
Veal	,,	,,	2,000
Lamb	,,	,,	5,600
Pork	,,	,,	3,700
		Total	44,690
GROUP VII.			
Timber :—	Flooring		
	,, 6 x 1½	100 ft. lin.	30
	,, 6 x ⅞	,,	30
	,, 6 x ¾	,,	30
	,, 6 x ½	,,	30
	Weather-boards	,,	200
	Oregon	1000 ft. sup	20
	Shelving	,,	10
Cement	Portland	cask	30
White Lead		ton	¾
Slates	Welsh 20 x 10	1,000	½
		Total	381¼
GROUP VIII.			
Cream of Tartar	In Kegs	lb.	400
Carbonate of Soda		ton	½
Saltpetre	Refined	,,	1/20
Sulphur		,,	¼
Caustic Soda		cwt.	7
Alum	Lump	ton	½
Cyanide Potassium		lb.	570
		Total	978 1/20

3. **Index Numbers.**—Index-numbers have been computed for each group of commodities, as well as for all groups together. These index-numbers are shewn in the following table :—

Melbourne Wholesale Prices, Index-Numbers, 1861 to 1918, Computed to Year 1911 as Base (= 1000).

YEAR.	I. Metals and Coal.	II. Jute, Leather, &c.	III. Agricultural Produce, &c.	IV. Dairy Produce.	V. Groceries.	VI. Meat.	VII. Building Materials	VIII. Chemicals.	All Commodities together.
1861 ..	1,438	1,381	1,583	1,008	1,963	..	1,070	2,030	**1,538**
1871 ..	1,096	1,257	1,236	864	1,586	..	1,044	1,409	**1,229**
1881 ..	1,178	1,115	1,012	935	1,421	..	1,091	1,587	**1,121**
1891 ..	895	847	1,024	995	1,032	888	780	1,194	**945**
1901 ..	1,061	774	923	1,029	1,048	1,345	841	917	**974**
1911 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	**1,000**
1912 ..	1,021	991	1,370	1,206	1,052	1,357	1,057	978	**1,170**
1913 ..	1,046	1,070	1,097	1,054	1,024	1,252	1,128	995	**1,088**
1914 ..	1,099	1,032	1,207	1,137	1,021	1,507	1,081	1,253	**1,149**
1915 ..	1,284	1,017	2,162	1,530	1,133	2,435	1,275	1,528	**1,604**
1916 ..	1,695	1,423	1,208	1,485	1,322	2,515	1,491	1,760	**1,504**
1917 ..	2,129	2,008	1,157	1,423	1,343	2,403	1,884	2,171	**1,662**
1918 ..	2,416	2,360	1,444	1,454	1,422	2,385	2,686	3,225	**1,934**

NOTE.—The figures given in this table are comparable in the vertical columns, but are not directly comparable horizontally. The index-numbers are reversible.

The index-numbers have in each case been computed with the prices in the year 1911 as base ; that is to say, they shew the amount which would have had to be expended in each of the years specified in order to purchase what would have cost £1,000 in 1911 distributed in purchasing the relative quantities (indicated by the mass-units) of the several commodities included in such group, and in all groups respectively. Thus, in the last column it may be seen that the cost of the relative quantities of the various commodities was 1229 in 1871, and 974 in 1901, as compared with 1000 in 1911 and 1934 in 1918. In other words, prices were lower in 1911 than in either 1871 or 1918, and the purchasing-power of money in 1911 was accordingly greater. Again, prices were higher in 1911 than in 1901, and the purchasing-power of money in the former year was therefore less.

The general index-number for the year 1918 shews an increase of 16.4 per cent. compared with that for 1917. With regard to the various group index-numbers, only one group, VI. (Meat), shews a decrease, but of only 0.8 per cent., all the other groups shewing increases : Group I. (Metals and Coal), 13.5 per cent. ; Group II. (Jute, Leather, etc.), 17.5 per cent. ; Group III. (Agricultural Produce), 24.8 per cent. ; Group IV. (Dairy Produce), 2.2 per cent. ; Group V. (Groceries), 5.9 per cent. ; Group VII. (Building Materials), 42.6 per cent. ; and Group VIII. (Chemicals), 48.5 per cent.

The index-numbers for the full period since 1871 (and for 1861 and 1866) are given in Report No. 1, page 48. On page 79 hereinafter a graph is given shewing the index-numbers since 1901 for all groups taken together.

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4. Variations in Price Levels of Commodity Groups for each Quarter of 1918.—In the following table are shewn the index-numbers for the four quarters of 1918, and the first quarter of 1919 :—

Melbourne Wholesale Prices, Quarterly Index-Numbers for 1918 and 1st Qtr., 1919.

GROUP.	No. of Commodities	INDEX NUMBERS.				
		Jan. to March, 1918.	April to June, 1918.	July to Sept., 1918.	Oct. to Dec., 1918.	Jan. to March, 1919.
I. Metals and Coal	14	2,358	2,403	2,445	2,459	2,283
II. Textiles, Leather, etc.	10	2,639	2,565	2,545	2,360	2,046
III. Agricultural Produce	16	1,286	1,437	1,450	1,614	1,753
IV. Dairy Produce	9	1,400	1,509	1,459	1,447	1,561
V. Groceries	21	1,373	1,412	1,454	1,448	1,426
VI. Meat	5	2,509	2,401	2,322	2,308	2,256
VII. Building Materials	10	2,272	2,698	2,888	2,885	2,883
VIII. Chemicals	7	3,126	3,238	3,438	3,098	3,197
ALL GROUPS*	92	1,877	1,940	1,954	1,965	1,929

* Weighted average.

5. Variations in Price Levels since the Outbreak of the War.—The variations in the index-numbers of the separate commodity groups for the years 1915 to 1918, and for each month from January 1918 to March 1919, are shewn in the following table, taking July 1914, the last month before the outbreak of war, as base (= 1000) for each group :—

Melbourne Wholesale Prices, Index-Numbers, July 1914, Years 1915 to 1918, and January 1918 to March 1919.

Particulars.	I. Metals and Coal.	II. Textiles, Leather, etc.	III. Agricultural Produce.	IV. Dairy Produce.	V. Groceries	VI. Meat.	VII. Building Materials.	VIII. Chemicals.	All Groups.
July 1914 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Year 1915 ..	1,166	934	2,024	1,272	1,098	1,502	1,164	1,490	1,406
,, 1916 ..	1,539	1,307	1,130	1,235	1,266	1,551	1,361	1,716	1,318
,, 1917 ..	1,919	1,841	1,084	1,181	1,302	1.480	1,722	2,141	1,456
,, 1918 ..	2,197	2,324	1,351	1,210	1,378	1,469	2,448	3,085	1,695
January, 1918	2,132	2,432	1,185	1,144	1,331	1,540	2,046	2,685	1,635
February ,,	2,157	2,365	1,191	1,155	1,336	1,532	2,069	3,180	1,633
March ,,	2,161	2,463	1,232	1,188	1,324	1,556	2,107	3,275	1,668
April ,,	2,161	2,430	1,261	1,209	1,385	1,517	2,156	3,275	1,677
May ,,	2,192	2,309	1,382	1,288	1,366	1,452	2,596	3,001	1,711
June ,,	2,195	2,331	1,359	1,272	1,355	1,469	2,593	3,207	1,709
July ,,	2,206	2,249	1,356	1,250	1,409	1,463	2,636	3,462	1,700
August ,,	2,225	2,392	1,358	1,217	1,414	1,408	2,656	3,363	1,721
September ,,	2,232	2,410	1,357	1,180	1 408	1,426	2,616	3,271	1,720
October ,,	2,234	2,310	1,417	1,163	1,402	1,490	2,616	3,188	1,727
November ,,	2,229	2,074	1,573	1,182	1,394	1,403	2,624	2,995	1,716
December ,,	2,237	2,122	1,539	1,271	1,397	1,370	2,663	2,916	1,722
January 1919	2,178	1,942	1,653	1,263	1,381	1,370	2,652	3,126	1,713
February ,,	2,042	1,838	1,661	1,290	1,374	1,316	2,637	3,139	1,672
March ,,	2,000	1,850	1,611	1,355	1,381	1,465	2,606	3,089	1,683

6. **Seasonal Fluctuations in Wholesale Prices, 1918.**—In order to shew the seasonal fluctuations in wholesale prices, index-numbers have been computed for each quarter of the year 1918. These are shewn in the following table, firstly, computed with the year 1911 as base, and secondly, with the average prices for the year 1918 as base. Corresponding figures for purchasing-power of money (retail prices and house rents) have been included for comparative purposes.

Melbourne Wholesale and Retail Prices—Quarterly Index-Numbers, 1918.

Particulars.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Whole Year.
Index-Numbers with 1911 as base (= 1,000) ..	1,877	1,940	1,954	1,965	1,934
Index-Numbers with average for 1918 as base (= 1,000)	971	1,003	1,010	1,016	**1,000**
Food, Groceries, and House Rent Index-Numbers, with average for 1918 as base (= 1,000)..	983	998	993	1,025	**1,000**

The first two lines shew that in 1918 wholesale prices increased steadily during the whole period. The last line shews that retail prices were higher in the second than in the first quarter, but lower in the third than in either of the two preceding quarters. The index-number shews that prices were higher in the fourth quarter than in any of the three preceding quarters.

7. **Table of Prices, 1917-18.**—In Appendix VI. particulars are given as to the average prices of the particular brands of commodities used in computing the index-numbers in the years 1917 and 1918. Corresponding information for previous years, as far back as 1871, was given in Appendix VI. to Report No. 1; for 1912 in Appendix IV. to Report No. 2; for 1913, 1914, and 1915 in Appendix V. to Report No. 6, and for 1916 and 1917 in Appendix III. to Report No. 8.

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SECTION VIII.—IMPORT AND EXPORT PRICE INDEX-NUMBERS.

1. **General.**—The list of commodities included in the investigation into import and export prices for the year 1917-1918, as well as the mass units, units of measurement, and sources of information, are the same as those in the previous investigations for the years 1901 to 1913, particulars of which are given on pages 66 to 68 of Report No. 1 on "Prices, Price Indexes and Cost of Living in Australia," and in Report No. 5, pp. 41 to 43. These index-numbers are computed annually, the data being obtained from the returns of imports and exports.

2. **Index-Numbers.**—Owing to the change in the system of collecting the statistics of imports and exports in the Commonwealth, by which the figures are made up to the end of the financial year at 30th June instead of at 31st December, as heretofore, the index-numbers in the last line of the following table represent the import and export values for the twelve months ending 30th June, 1918. The index-number for import and export prices in the Commonwealth for 1917-18 was 1594, compared with 1443 for 1916-17. This shews an increase of 11.0 per cent., compared with an increase during the same period of 2.8 per cent. in the purchasing power-of-money index-number, and with an increase of 11.6 per cent. in wholesale prices. The index-numbers for previous years for the various groups and for all groups together are shewn in the following table :—

Commonwealth Import and Export Values. Index-Numbers for each Group, and all Groups combined, 1901 to 1917-18.

Particulars.	I. Metals and Coal.	II. Textiles.	III. Agricultural Produce.	IV. Meat, Dairy Produce, etc.	V. Groceries, etc.	VI. Miscellaneous.	All Groups.*
No. of Commodities.	5	4	7	7	7	14	44
1901	1,046	730	884	978	994	979	911
1902	1,015	828	1,011	1,010	969	934	959
1903	931	885	863	993	956	842	918
1904	888	935	707	915	908	877	870
1905	867	915	950	888	902	899	907
1906	962	947	951	888	889	906	921
1907	1,017	987	823	929	1,005	937	935
1908	981	882	1,148	1,004	1,002	902	993
1909	958	879	1,081	914	937	970	952
1910	980	1,013	1,033	940	970	1,017	989
1911	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
1912	1,061	980	1,238	1,038	1,030	1,044	1,067
1913	1,086	934	1,126	1,043	1,018	1,110	1,045
1914–15† ..	1,001	966	1,239	1,253	1,154	1,087	1,141
1915-16† ..	1,138	1,019	1,522	1,475	1,308	1,072	1,298
1916-17† ..	1,340	1,537	1,066	1,562	1,494	1,339	1,443
1917-18† ..	1,777	1,823	1,322	1,590	1,521	1,574	1,594

* Weighted Average. † The year ending 30th of June in each case.

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3. **Variations in Price Levels of Commodity Groups.**—Of the six groups into which the 44 commodities are classified, the index-numbers for all the groups were higher in 1917-18 than in the preceding year. The increases were :—Group I. (Metals and Coal), 32.1 per cent. ; Group II. (Textiles), 18.6 per cent. ; Group III. (Agricultural Produce), 24.0 per cent. ; Group IV. (Meat, Dairy Produce, etc.), 1.8 per cent. ; Group V. (Groceries), 1.8 per cent. ; and Group VI. (Miscellaneous), 17.7 per cent.

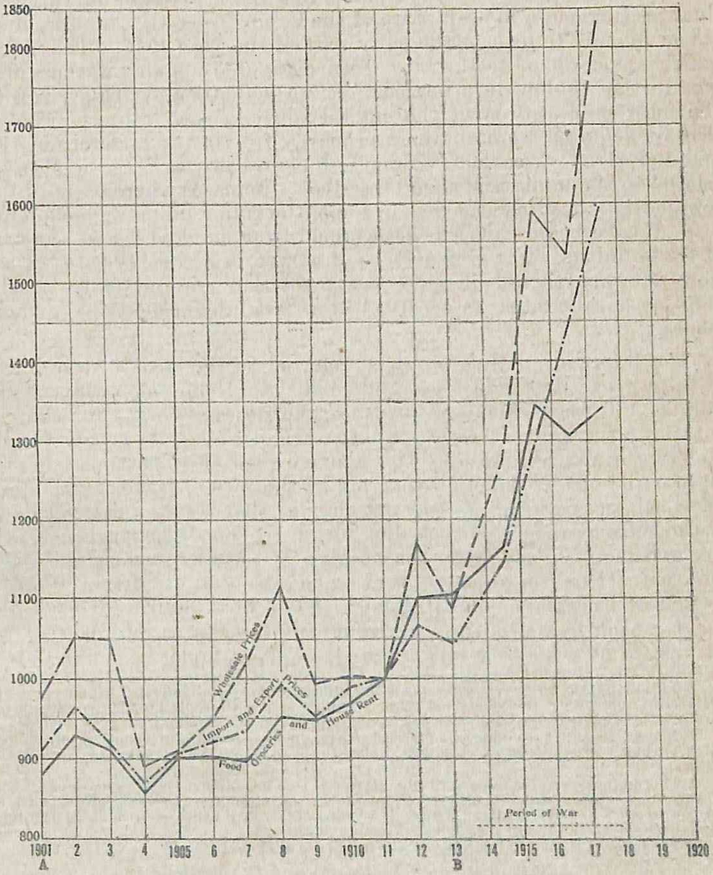
4. **Comparisons between Purchasing-Power of Money, Wholesale and Import and Export Index-Numbers.**—In the following table particulars are given of the purchasing-power of money (retail prices and house rent), wholesale and import and export index-numbers from 1901 to 1917-18, inclusive :—

Food, Groceries, and House Rent, Wholesale Price and Import and Export Price Index-Numbers, 1901 to 1917-18.

YEAR.	INDEX-NUMBERS.		
	Food, Groceries, and House Rent (Weighted Average for 6 Capital Towns).	Wholesale Price (Melbourne).	Import and Export Price (Commonwealth).
1901	880	974	911
1902	929	1,051	959
1903	910	1,049	918
1904	858	890	870
1905	901	910	907
1906	902	948	921
1907	897	1,021	935
1908	951	1,115	993
1909	948	993	952
1910	970	1,000	989
1911	**1,000**	**1,000**	**1,000**
1912	1,101	1,170	1,067
1913	1,104	1,088	1,045
1914–15	1,164	1,273	1,141
1915–16	1,344	1,590	1,298
1916–17	1,307	1,533	1,443
1917–18	1,343	1,834	1,594

The above index-numbers are shewn in the graph on page 79. In making comparisons between these three sets of index-numbers, it is to be borne in mind that the figures do not, of course, indicate the relation between the different prices themselves, that is, between retail and wholesale prices, etc., for the reason that the weighted average prices are in each case made equal to 1000 for the year 1911. The figures shew the relative increase or decrease in each set of price-indexes.

PRICE INDEX-NUMBERS, GRAPH SHEWING RELATION BETWEEN COST OF FOOD GROCERIES, AND HOUSE RENT, WHOLESALE PRICES, AND IMPORT AND EXPORT PRICES IN AUSTRALIA, 1901 to 1917-18.



It may be seen that for the years 1901 to 1913 (from A to B on the graph), the index-numbers, which represent averages for the years specified, have been plotted on the vertical line of the years to which they refer, from B onwards the index-numbers are plotted midway between the two years. It should be observed that the index-number for the period 1914-15 includes the whole of 1914 and the first half of 1915, but that subsequent index-numbers refer to the latter half of one year and the first half of the following year, *i.e.*, from 1st July to 30th June.

SECTION IX.—CURRENT RATES OF WAGE AND HOURS OF LABOUR.

1. **General.**—The collection of material respecting the current rate of wage payable in different callings and in occupations in various industries carried on in each State of the Commonwealth was first undertaken by this Bureau in the early part of the year 1913. The inquiry, which was confined to the rate of wage payable to adult workers only,[*] was further limited in a degree to those industries in operation within the metropolitan area of the capital town in each State.[†] The particulars acquired were obtained primarily from awards, determinations, and industrial agreements under Commonwealth and State Acts, and related to the minimum wage prescribed. In cases where no award, determination or agreement was in force, the ruling union or predominant rate of wage being paid was ascertained from employers and secretaries of trade unions. For convenience of comparison, weekly rates of wage were adopted, though in many instances they were actually based on daily or hourly rates, as specified in awards, determinations, or agreements.[‡].

The information thus obtained referred to the weekly rate of wage in upwards of 400 industries, and related to 1569 male occupations or callings. These particulars furnished the necessary data for the computation of average rates of wage in various industrial groups,[§] and in each State and all States. The average rate of wage thus computed represented the arithmetic average [||] of the rate of wage payable in all classified occupations. It was not claimed that results obtained by this method are precisely correct, but owing to the difficulty in obtaining any satisfactory data as to the number of persons engaged in each of the occupations for which rates of wage had been obtained, no *detailed* system of weights could be applied. [¶]For final results for each State and for each industrial group throughout the States, however, a careful system of weighting was adopted. For example, in computing the

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[*] This limitation was necessary owing to the difficulty of ascertaining reliable particulars of the numbers of apprentices, improvers and other juvenile workers, to whom progressive rates of wage, fixed or otherwise, according to increasing age or experience, are payable from year to year.

[†] In order to make the inquiry a comprehensive one, it was necessary to include certain industries which obviously are not carried on in the capital towns, *e.g.*, Mining, Shipping, Agricultural, and Pastoral.

[‡] This precaution was necessary, in view of the fact that it is often in those industries and occupations in which employment is of an exceptionally casual or intermittent nature that wages are fixed and paid at a daily or hourly rate. Hence the average weekly earnings in such occupations will probably fall considerably short of the computed weekly rates.

[§] The following industrial classification of industries was adopted :—

Classification of Industries and Occupations.

I.	Wood, Furniture, Sawmill, Timber-works, &c.	VIII.	Mining, &c.
II.	Engineering, Metal Works, &c.	IX.	Railway and Tramway Services.
III.	Food, Drink, and Tobacco, &c., Manufacturing.	X.	Other Land Transport.
IV.	Clothing, Hats, Boots Textiles, &c.	XI.	Shipping, Wharf Labour, &c.
V.	Books, Printing, Bookbinding, &c.	XII.	Pastoral, Agricultural, Rural, Horticultural, &c.
VI.	Other Manufacturing.	XIII.	Domestic, Hotels, etc.
VII.	Building.	XIV.	Miscellaneous.

[||] The summation of the weekly rate of wage divided by the number of occupations included.

[¶] Though a great deal of information as to the number of persons engaged in different industries and occupations was available from the Census (1911) results, it was found impracticable to bring the classification of these results into line with the detailed classification of occupations in the various industries, as set out in the awards, determinations, etc.

result for any State in any year, the computed average wage in each industrial group was multiplied by a number (weight) representing the relative number of all male workers engaged in that group of industries in the particular State. * The sum of the products thus obtained, divided by the sum of the weights, represents the relative aggregate average wage for that State for the particular year.*

The whole question of weighting was referred to in some detail in Report No. 1 (*Prices, Price Indexes and Cost of Living*) of the Labour and Industrial Branch of this Bureau. With the necessary verbal modifications, many of the statements there made and the problems there considered in regard to the subject of prices, etc., refer equally to the question of weighting in other investigations, such as the present. Any inquirer wishing to thoroughly understand the subject may refer to that Report.

The results thus ascertained for the year 1913 were published in Labour Report No. 2, pp. 28-43. In the early part of the year 1914 the scope of the inquiry was considerably extended, and particulars of the weekly rates of wage in 930 specified industries and 4256 adult occupations (3948 male, and 308 female)† were included, and results obtained thereby to the 30th April, 1914, were published in Labour Report No. 5, pp. 44-50. These results were further analysed, and the number of working hours which constituted a full week's work in each occupation was averaged and weighted in a similar manner to the rates of wage. This course was adopted in order to overcome the difficulty of making comparisons of the rates of wage in any specified occupation, owing, in many instances, to a different number of working hours constituting a full week's work in separate States. By dividing the weighted average number of working hours into the weighted average weekly rate

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* The weights used in the computation of the average wage were as follows :—

Current Rates of Wage for Adult Male Occupations. Weights used for each Industrial Group.

Particulars.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.
N.S.W. ..	136	228	199	84	65	162	252	343	187	74	137	704	134	902
Victoria ..	118	195	160	95	58	141	190	157	136	54	65	455	95	734
Queensland	67	62	108	23	20	34	70	133	73	22	45	352	45	302
S. Australia	24	71	45	16	13	40	68	29	48	17	44	182	24	223
W. Australia	65	36	32	7	8	16	32	142	40	9	32	118	31	158
Tasmania	25	14	17	6	5	7	20	49	10	6	12	104	10	80
C'wealth ..	435	606	561	231	169	400	632	853	494	182	335	1,915	339	2,399

† The weights used in the computation of the average wage in female occupations were as follows:

Current Rates of Wage for Adult Female Occupations. Weights used for each Industrial Group.

Particulars.	III. Food, Drink, etc.	IV. Clothing, Boots, etc.	I. II. V. VI. Other Manufactures Combined.	XIII. Domestic, Hotels, etc.	XIV. Miscellaneous Shop Assistants, Clerks, etc.
New South Wales	23	228	44	104	124
Victoria	28	320	57	80	111
Queensland	5	80	8	47	40
South Australia	3	56	7	22	32
Western Australia	1	29	..	29	..
Tasmania	1	18	2	8	..
Commonwealth	61	731	118	290	307

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of wage, what for some purposes may be considered a more adequate standard of comparison was ascertained. Results obtained from these computations were given for each industrial group for each State.

Since the 30th April, 1914, the number of occupations included in comparative computations have been kept constant, but the particulars of wages contained in Appendixes VII. and VIII. to this Report include those for many additional occupations. In most instances these have been taken from awards or determinations made subsequent to that date by industrial tribunals or from agreements registered under Commonwealth or State Acts, or as a result of direct inquiry.

2. **Weekly Rates of Wage and Wage Index-Numbers in States and in Classified Industries, 31st December, 1918.**—The particulars given in the Appendixes, referred to above, furnish the necessary data for the computation of relative rates of wage in the different States and classified industrial groups at the 31st December, 1918.

(i.) *Weighted Average Nominal Weekly Rate of Wage Payable to Adult Male Workers in each State, 31st December*, 1918.—The following table shews the weighted average nominal weekly rate of wage payable at the 31st December, 1918, to adult male workers for a full week's work in each State and the Commonwealth. These results are based on the rates of wage in a large number of important industries, and serve to indicate with a considerable degree of precision the relative conditions in the several States. For the purposes of comparison as between States it should, however, be observed that the lists of occupations to which the rates of wage refer are not by any means uniform, neither do they necessarily include all industries carried on in each State. An examination of the Appendixes, however, will shew that the rates of wage for all occupations and callings which are common to all States are included. Any conclusions drawn from the tables must be subject to these qualifications. Taking the weighted average rate of wage for the six States as base (= 1000), index-numbers for each State are also shewn.

Weighted Average Nominal Weekly Rate of Wage payable to Adult Male Workers for a Full Week's Work, and Wage Index-Numbers in each State and Commonwealth, 31st December, 1918.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'with.
Number of Occupations included ..	874	909	627	567	489	482	3,948
Weighted Average Weekly Rate of Wage	s. d. 65 11	s. d. 65 6	s. d. 69 6	s. d. 65 6	s. d. 70 4	s. d. 61 2	s. d. 66 5*
Index-Numbers	993	986	1,046	986	1,058	921	1,000*

* Weighted average.

The results shew that the weighted average nominal weekly rate of wage was highest in Western Australia, followed in the order named by Queensland, New South Wales, South Australia and Victoria (equal), and Tasmania.

(ii.) The following table gives particulars in regard to the weighted average nominal weekly rate of wage at the 31st December, 1918, for adult male workers in each of the several industrial groups and to the weighted average for all groups combined. In computing the index-number for each industrial group, the weighted average rate of wage for all groups is taken as base (= 1000).

Weighted Average Nominal Weekly Rate of Wage payable to Adult Male Workers for a full Week's Work, and Wage Index-Numbers in each Industrial Group, 31st December, 1918.

Industrial Groups.	No. of Rates Included.	Weighted Aver. Weekly Rate of Wage (for Full Week's Work).		Index-Numbers
		s.	d.	
I. Wood, Furniture, etc. ..	270	68	11	1,038
II. Engineering, Metal Works, etc.	636	68	8	1,033
III. Food, Drink, etc. ..	576	66	0	994
IV. Clothing, Boots, etc. ..	124	61	5	925
V. Books, Printing, etc. ..	205	74	1	1,115
VI. Other Manufacturing ..	875	66	1	995
VII. Building	190	74	3	1,118
VIII. Mining	161	78	6	1,181
IX. Rail & Tram Services ..	224	68	11	1,038
X. Other Land Transport ..	70	63	5	954
XI. Shipping, etc.	198	64	5†	970
XII. Pastoral, Agricultural, etc.	72	63	1‡	950
XIII. Domestic, Hotels, etc.	114	56	7§	852
XIV. Miscellaneous	233	63	3	952
All Groups	3,948	66	5	**1,000***

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* Weighted average. † Including the value of victualling and accommodation where supplied. ‡ Including the value of Board and Lodging where supplied as follows :—In the pastoral industry, 15s. in West Australia, 17s. in Tasmania, and 20s. in the remaining States. § Including the value of Board and Lodging where supplied as follows :—In Sydney 15s. to 19s., in Melbourne 14s., in Perth 22s., and in Brisbane, Adelaide and Hobart 15s. per week.

It may be seen from the above table that the highest weighted average nominal weekly wage at the end of the year 1918 was paid to employees in the Mining industry (Group VIII.), 78s. 6d. per week, followed by Group VII. (Building), 74s. 3d., and Group V. (Books, Printing, etc.), 74s. 1d. The lowest weighted average nominal weekly wage was that paid to persons engaged in Hotels, Restaurants, etc. (Group XIII.), 56s. 7d. The average wage paid in the Mining industry (Group VIII.) was 18 per cent. higher, while the average in Group XIII. (Domestic, Hotels, etc.) was 15 per cent. lower than the average wage for all groups.

(iii.) The following table shews the weighted average nominal weekly rate of wage payable at 31st December, 1918, to adult female workers for a full week's work in each State and the Commonwealth. Taking the weighted average rate of wage for the whole Commonwealth as base (= 1000), index-numbers for each State are given :—

Weighted Average Nominal Weekly Rate of Wage payable to Adult Female Workers for a Full Week's Work, and Wage Index-Numbers in each State and Commonwealth, 31st December, 1918.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of Occupations included	85	87	37	47	24	28	308
Weighted Average Weekly Rate of Wage	s. d. 31 10	s. d. 31 3	s. d. 32 10	s. d. 29 5	s. d. 38 10	s. d. 28 9	s. d. 31 9*
Index-Numbers	1,004	985	1,034	928	1,224	906	1,000*

* Weighted average.

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The highest weighted average nominal weekly rate of wage for female workers was paid in Western Australia, followed in the order named by Queensland, New South Wales, Victoria, South Australia, and Tasmania.

(iv.) The following table gives particulars regarding the weighted average nominal weekly rate of wage of adult females in those industrial groups in which they are mainly employed, and the weighted average for all groups combined. Index-numbers based on the weighted average for all groups (= 1000) are also given :—

Weighted Average Nominal Weekly Rate of Wage payable to Adult Female Workers for a Full Week's Work, and Wage Index-Numbers in Industrial Groups, 31st December, 1918.

Industrial Groups.	No. of Rates Included.	Weighted Aver. Weekly Rate of Wage (for Full Week's Work). s.	d.	Index-Numbers.
III. Food, Drink, etc.. ..	35	29	3	922
IV. Clothing, Boots, etc. ..	114	30	9	968
I., II., V., VI. All Other Manufacturing Combined	84	32	0	1,008
XIII. Domestic, Hotels, etc.	57	34	1*	1,074
XIV. Shop Assistants, Clerks, etc	18	32	4	1,018
All Groups	308	31	9	1,000†

* See footnote § to table on preceding page. † Weighted average.

The results set out in the above table shew that the highest weighted average wage was paid in Group XIII. (Domestic, Hotels, etc.), 34s. 1d., followed in order by Group XIV. (Shop Assistants, Clerks, etc.), 32s. 4d., and the combined Manufacturing group, 32s. 0d. The average wage paid to employees in Group III. (Food, Drink, etc.), 29s. 3d., is 8 per cent. lower, while that paid in Group XIII. (Domestic, Hotels, etc.) is 7 per cent. higher than the average rate of wage for all groups.

3. **Relative Weekly Wages and Wage Index-Numbers in each State and for all States, 1914-18.**—The arithmetic average of the rates of wage given in the appendixes referred to furnishes the basis for the computation of relative weighted wages in different industrial groups and States. In the following tables particulars are given of the results thus obtained of the weighted average nominal weekly rates of wage payable to adult workers, male and female, separately, at the 30th April, 1914, and approximately at the end of each subsequent quarterly period to the 31st December, 1918, for a full week's work, in each State and for all States.

(i.) *Weighted Average Nominal Weekly Rates of Wage Payable to Adult Male Workers in each State*, 1914-18.— The following table shews the weighted average nominal weekly rate of wage payable to adult male workers for a full week's work, together with index-numbers for each State at each specified interval with the average for all States at the 30th April, 1914, as base (=1000).

Weighted Average Nominal Weekly Rate of Wage payable to Adult Male Workers for a Full Week's Work, and Wage Index-numbers in each State and Commonwealth, 30th April, 1914, to 31st December, 1918.

NOTE.—Index-number based on the average wage for the Commonwealth at the 30th April, 1914 (55.12s.) as base (=1000). The index-numbers in this table are comparable throughout.

Particulars.		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
No. of Occupations Included.		874	909	627	567	489	482	3,948
30th April, 1914.	Weighted average weekly rate of wage	s. d. 55 9	s. d. 54 3	s. d. 52 8	s. d. 54 4	s. d. 62 2	s. d. 52 6	s. d. 55 1
	Index-numbers ..	1,011	984	955	986	1,128	952	**1,000**
30th June, 1914	Weighted average weekly rate of wage	s. d. 55 11	s. d. 54 4	s. d. 52 10	s. d. 54 4	s. d. 62 9	s. d. 52 7	s. d. 55 3
	Index-numbers ..	1,014	985	958	986	1,139	954	**1,003**
30th Sept., 1914.	Weighted average weekly rate of wage	s. d. 56 2	s. d. 54 7	s. d. 53 4	s. d. 54 5	s. d. 62 10	s. d. 52 8	s. d. 55 6
	Index-numbers ..	1,019	990	967	988	1,140	956	**1,008**
31st Dec., 1914.	Weighted average weekly rate of wage	s. d. 56 2	s. d. 54 7	s. d. 53 5	s. d. 54 5	s. d. 62 10	s. d. 52 8	s. d. 55 7
	Index-numbers ..	1,019	990	969	988	1,140	956	**1,008**
31st Mar., 1915.	Weighted average weekly rate of wage	s. d. 56 3	s. d. 54 8	s. d. 53 4	s. d. 54 3	s. d. 63 1	s. d. 52 9	s. d. 55 7
	Index-numbers ..	1,021	992	967	984	1,144	957	**1,009**
30th June, 1915.	Weighted average weekly rate of wage	s. d. 56 8	s. d. 54 8	s. d. 53 4	s. d. 54 3	s. d. 63 1	s. d. 52 9	s. d. 55 7
	Index-numbers ..	1,028	992	967	984	1,145	957	**1,012**
30th Sept., 1915.	Weighted average weekly rate of wage	s. d. 56 10	s. d. 54 11	s. d. 53 8	s. d. 54 3	s. d. 63 1	s. d. 52 9	s. d. 56 0
	Index-numbers ..	1,031	996	974	985	1,145	958	**1,015**
31st Dec., 1915.	Weighted average weekly rate of wage	s. d. 57 7	s. d. 55 3	s. d. 54 4	s. d 54 8	s. d. 63 4	s. d. 53 3	s. d. 56 6
	Index-numbers ..	1,044	1,002	986	992	1,149	965	**1,023**
31st Mar., 1916.	Weighted average weekly rate of wage	s. d. 58 2	s. d. 56 7	s. d. 55 1	s. d. 55 8	s. d. 63 4	s. d. 53 9	s. d. 57 3
	Index-numbers ..	1,055	1,026	999	1,011	1,149	976	**1,039**
30th June, 1916.	Weighted average weekly rate of wage	s. d. 58 11	s. d. 57 0	s. d. 56 5	s. d. 56 1	s. d. 63 4	s. d. 54 4	s. d. 57 11
	Index-numbers ..	1,069	1,035	1,024	1,018	1,149	986	**1,051**
30th Sept., 1916.	Weighted average weekly rate of wage	s. d. 59 6	s. d. 57 9	s. d. 57 11	s. d. 56 6	s. d. 63 8	s. d. 54 9	s. d. 58 8
	Index-numbers ..	1,079	1,047	1,051	1,025	1,155	993	**1,064**
31st Dec., 1916.	Weighted average weekly rate of wage	s. d. 61 11	s. d. 58 10	s. d. 60 4	s. d. 59 0	s. d. 65 2	s. s 57 0	s. d. 60 8
	Index-numbers ..	1,123	1,067	1,095	1,071	1,182	1,034	**1,100**
31st Mar., 1917.	Weighted average weekly rate of wage	s. d. 62 7	s. d. 60 0	s. d. 61 2	s. d. 59 8	s. d. 65 5	s. d. 57 6	s. d. 61 5
	Index-numbers ..	1,136	1,089	1,110	1,083	1,186	1,044	**1,115**
30th June, 1917.	Weighted average weekly rate of wage	s. d. 63 5	s. d. 61 2	s. d. 62 4	s. d. 61 0	s. d. 66 4	s. d. 57 7	s. d. 62 5
	Index-numbers ..	1,151	1,109	1,131	1,107	1,203	1,044	**1,132**
30th Sept., 1917.	Weighted average weekly rate of wage	s. d. 63 9	s. d. 62 3	s. d. 63 5	s. d. 61 6	s. d. 67 10	s. d. 58 6	s. d. 63 3
	Index-numbers ..	1,157	1,130	1,151	1,116	1,231	1,061	**1,147**
31st Dec., 1917.	Weighted average weekly rate of wage	s. d. 64 5	s. d. 63 0	s. d. 65 3	s. d. 63 1	s. d. 68 11	s. d. 59 7	s. d. 64 2
	Index-numbers ..	1,168	1,143	1,183	1,144	1,250	1,081	**1,164**
31st Mar., 1918.	Weighted average weekly rate of wage	s. d. 64 8	s. d. 63 2	s. d. 65 4	s. d. 63 1	s. d. 69 0	s. d. 59 10	s. d. 64 4
	Index-numbers ..	1,173	1,146	1,186	1,145	1,253	1,085	**1,167**
30th June, 1918.	Weighted average weekly rate of wage	s. d. 64 9	s. d. 63 4	s. d. 65 7	s. d. 63 3	s. d. 69 5	s. d. 60 2	s. d. 64 6
	Index-numbers ..	1,175	1,149	1,190	1,147	1,259	1,092	**1,171**
30th Sept., 1918	Weighted average weekly rate of wage	s. d. 65 0	s. d. 63 9	s. d. 67 0	s. d. 63 7	s. d. 69 6	s. d. 60 4	s. d. 65 0
	Index-numbers ..	1,179	1,156	1,216	1,154	1,261	1,094	**1,179**
31st Dec., 1918.	Weighted average weekly rate of wage	s. d. 65 11	s. d. 65 6	s. d. 69 6	s. d. 65 6	s. d. 70 4	s. d. 61 2	s. d. 66 5
	Index-numbers ..	1,196	1,189	1,261	1,188	1,276	1,110	**1,205**

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In the preceding table it will be seen that the average weekly wage for adult male workers, as indicated by index-numbers at the 30th April, 1914, in two States, viz., New South Wales and Western Australia, exceeded the weighted average wage for the Commonwealth. This feature remained constant in varying degrees of excess throughout the period under review until the end of September, 1917, when the index-number representing the average wage for Queensland also was higher than the weighted average wage index-number for the Commonwealth.

During the year 1918, the average weekly rate of wage advanced considerably in Victoria, Queensland and South Australia. The effect of these advances was such, that at the 31st December, 1918, the average weekly rate for the Commonwealth exceeded that for New South Wales The rates for Queensland and Western Australia were higher at the end of 1918 than the average weekly rate for the Commonwealth, while those for Victoria, South Australia and Tasmania, as well as that for New South Wales, were lower.

(ii.) *Weighted Average Weekly Rate of Wage payable to Adult Female Workers in each State*, 1914-18.—The first part of the following table shews the weighted average weekly rate of wage payable to adult female workers for a full week's work in each State and the Commonwealth at the 30th April, 1914, and at approximately quarterly periods to the 31st December, 1918. The table shews index-numbers for each State based on the average weekly wage at the end of each of the periods indicated, computed with the weighted average wage for all States at the 30th April, 1914, as base (=1000).

From the following table it will be seen that the general upward movement in the average weekly wage for adult female workers, as indicated for the whole Commonwealth, was comparatively small during 1914 and 1915. From the beginning of the year 1916, the average wage has increased rapidly, the increase during the year 1918 being very noticeable, particularly in the fourth quarter. The advance during the whole period under review has been 16.8 per cent., and this increase has practically taken place since the beginning of 1916.

Weighted Average Nominal Weekly Rate of Wage payable to Adult Female Workers for a Full Week's Work, and Wage Index-numbers in each State and Commonwealth, 30th April, 1914, to 31st December, 1918.

NOTE.—Index-number based on the average wage for the Commonwealth at the 30th April, 1914 (27s. 2d.) as base (= 1000). The index-numbers in this table are comparable throughout.

Particulars.		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
No. of Occupations Included.		85	87	37	47	24	28	308
30th April, 1914.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	26 9	27 4	26 11	24 1	37 4	25 10	27 2
	Index-numbers ..	984	1,006	989	885	1,373	950	1,000
30th June, 1914.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	26 9	27 4	27 0	24 1	37 4	25 10	27 2
	Index-numbers ..	984	1,006	993	885	1,373	950	1,000
30th Sept., 1914.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	26 10	27 9	26 11	24 1	37 4	25 10	27 4
	Index-numbers ..	987	1,022	990	885	1,373	950	1,006
31st Dec., 1914.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	26 10	27 9	27 1	24 1	37 4	25 10	27 5
	Index-numbers ..	987	1,022	996	885	1,373	950	1,008
31st Mar., 1915.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	26 10	26 11	27 2	24 0	37 5	26 3	27 1
	Index-numbers ..	987	989	999	883	1,376	964	996
30th June, 1915.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	27 2	26 11	27 2	24 0	37 5	26 3	27 2
	Index-numbers ..	998	989	999	883	1,376	964	1,000
30th Sept., 1915.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	27 3	26 11	26 11	24 0	37 5	28 0	27 3
	Index-numbers ..	1,003	990	990	883	1,376	1,031	1,002
31st Dec., 1915.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	27 5	26 11	26 11	24 6	37 5	28 0	27 4
	Index-numbers ..	1,007	990	990	901	1,376	1,031	1,005
31st Mar., 1916.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	Weekly rate of wage	27 7	27 11	26 11	24 6	37 5	28 4	27 9
	Index-numbers ..	1,015	1,025	991	901	1,376	1,042	1,022
30th June, 1916.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	27 7	27 11	26 11	24 6	37 5	27 9	27 9
	Index-numbers ..	1,013	1,027	991	902	1,376	1,019	1,021
30th Sept., 1916.	Weighted average	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	27 11	28 2	27 2	24 10	37 5	27 9	28 1
	Index-numbers ..	1,027	1,037	998	913	1,376	1,019	1,032
31st Dec., 1916.	Weighted average	*s.* *d.*	*s.* d.	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	28 7	28 6	27 4	24 11	38 10	28 4	28 6
	Index-numbers ..	1,050	1,047	1,004	915	1,429	1,041	1,047
31st Mar., 1917.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	29 1	28 10	27 5	25 9	38 10	28 4	28 11
	Index-numbers ..	1,072	1,061	1,009	947	1,430	1,042	1,064
30th June, 1917.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	29 3	28 10	27 9	27 3	38 10	28 4	29 1
	Index-numbers ..	1,078	1,061	1,021	1,004	1,430	1,042	1,071
30th Sept., 1917.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	30 2	29 7	30 0	27 8	38 10	28 4	30 0
	Index-numbers ..	1,109	1,090	1,105	1,019	1,430	1,042	1,105
31st Dec., 1917.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	30 5	30 4	30 5	27 9	38 10	28 5	30 5
	Index-numbers ..	1,119	1,116	1,120	1,020	1,430	1,045	1,121
31st Mar., 1918.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	31 0	30 5	30 7	27 10	38 10	28 5	30 9
	Index-numbers ..	1,140	1,120	1,125	1,024	1,430	1,047	1,130
30th June, 1918.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	31 3	30 6	30 8	28 6	38 10	28 5	30 11
	Index-numbers ..	1,149	1,121	1,128	1,050	1,430	1,047	1,137
30th Sept., 1918.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	31 5	30 9	32 3	28 8	38 10	28 5	31 3
	Index-numbers ..	1,156	1,131	1,186	1,054	1,430	1,047	1,149
31st Dec., 1918.	Weighted average	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
	weekly rate of wage	31 10	31 3	32 10	29 5	38 10	28 9	31 9
	Index-numbers ..	1,173	1,151	1,208	1,084	1,430	1,059	1,168

(iii.) *Weighted Average Weekly Rate of Wage Payable to Adult Male Workers in each Industrial Group*, 1914-1918.—The following table gives particulars in regard to (a) the average weekly rate of wage in each of the industrial groups, and (b) the weighted average wage for all groups combined, as at 30th April, 1914, at 31st December, 1914 to 1917, and at approximately quarterly periods during the year 1918. Index-numbers for each industrial group and all groups, based on the average wage for all groups at 30th April, 1914 (= 1000), are given :—

Weighted Average Nominal Weekly Rate of Wage payable to Adult Male Workers for a Full Week's Work, and Wage Index-numbers in each Industrial Group, 30th April, 1914, to 31st December, 1918.†

NOTE.—Index-numbers for each industrial group and all industrial groups, based on the average wage for all groups at 30th April, 1914 (55s. 1d.), as base (= 1000). The index-numbers in this table are comparable throughout.

Industrial Group.		Weighted Average Nominal Weekly Rate of Wage, and Index-Number at—								
		30th April, 1914.	31st Dec., 1914.	31st Dec., 1915.	31st Dec., 1916.	31st, Dec. 1917.	31st Mar., 1918.	30th June, 1918.	30th Sept., 1918.	31st Dec., 1918.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
I. Wood, Furniture, etc.	Wage ..	58 6	59 6	60 2	63 10	66 0	66 3	66 8	67 5	68 11
	Index-No.	1,062	1,080	1,092	1,159	1,198	1,202	1,210	1,222	1,251
II. Engineering, etc.	Wage ..	57 0	57 9	60 2	62 1	65 0	65 2	65 2	66 0	68 8
	Index-No.	1,035	1,048	1,092	1,127	1,180	1,182	1,182	1,198	1,245
III. Food, Drink, etc.	Wage ..	55 0	55 8	57 9	61 2	63 7	63 10	64 6	65 0	66 0
	Index-No.	999	1,011	1,048	1,111	1,154	1,158	1,169	1,179	1,198
IV. Clothing, Boots, etc.	Wage ..	52 3	53 0	53 2	56 7	59 7	59 7	60 0	60 3	61 5
	Index-No.	949	962	965	1,027	1,082	1,082	1,089	1,092	1,114
V. Books, Printing, etc.	Wage ..	63 3	63 10	64 6	68 1	70 0	71 0	71 4	71 8	74 1
	Index-No.	1,150	1,159	1,171	1,236	1,280	1,288	1,295	1,300	1,344
VI. Other Manufacturing	Wage ..	55 1	56 0	57 8	61 8	63 10	64 0	64 4	64 8	66 1
	Index-No.	1,000	1,017	1,047	1,120	1,159	1,161	1,167	1,173	1,199
VII. Building ..	Wage ..	65 0	65 5	65 10	69 8	72 5	72 5	72 7	7[illegible]	74 3
	Index-No.	1,180	1,188	1,195	1,265	1,315	1,315	1,317	1,31[illegible]	[illegible],348
VIII. Mining, etc.	Wage ..	65 1	65 2	66 7	72 9	78 4	78 4	78 4	78 4	78 6
	Index-No.	1,182	1,183	1,209	1,321	1,422	1,422	1,422	1,422	1,424
IX. Railways, etc.	Wage ..	59 8	59 8	60 10	63 4	65 11	66 0	66 2	67 4	68 11
	Index-No.	1,083	1,083	1,104	1,150	1,197	1,197	1,200	1,221	1,251
X. Other Land Transport	Wage ..	51 0	52 8	53 4	57 10	62 0	62 0	62 8	62 9	63 5
	Index-No.	926	956	968	1,050	1,126	1,126	1,136	1,138	1,150
XI. Shipping, etc.*	Wage ..	48 10	49 10	52 7	59 1	61 2	61 3	61 3	61 3	64 5
	Index-No.	887	905	955	1,073	1,111	1,111	1,112	1,112	1,169
XII. Agricultural, etc.*	Wage ..	49 5	49 5	49 8	55 0	61 1	61 1	61 1	61 1	63 1
	Index-No.	897	897	902	999	1,109	1,109	1,109	1,109	1,145
XIII. Domestic, etc.*	Wage ..	47 0	47 11	48 7	51 0	53 11	54 1	54 2	56 2	56 7
	Index-No.	853	870	882	926	979	981	982	1,019	1,027
XIV. Miscellaneous	Wage ..	53 7	54 0	54 7	58 3	60 9	61 3	61 5	62 0	63 3
	Index-No.	973	980	991	1,058	1,103	1,111	1,114	1,125	1,147
All Industrial Groups	Wage ..	55 1	55 7	56 6	60 8	64 2	64 4	64 6	65 0	66 5
	Index-No.	**1,000**	1,008	1,023	1,100	1,164	1,167	1,171	1,179	1,205

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* See footnote to table on page 83.

† Particulars for the quarters omitted from this table will be found on page 73 of Report No. 8.

The above table shews that the rate of increase in the weighted average weekly wage in occupations and callings classified in the fourteen industrial groups during the period 30th April, 1914, to 31st December, 1918, was greatest in Group XI. (Shipping), 31.8 per cent., followed in the order named by Groups XII. (Agricultural, etc.), 27.6 per cent., and X. (Other Land Transport), 24.2 per cent. In ten of the groups the increase was less, in one group equal, and in three groups more than the increase in the weighted average for all groups.

(iv.) *Weighted Average Weekly Rate of Wage Payable to Adult Female Workers in Industrial Groups,* 1914-18.—The following table gives particulars of the weighted average weekly rate of wage payable to adult female workers at the 30th April, 1914, at 31st December, 1914 to 1917, and at approximately quarterly periods during the year 1918, in the industrial groups in which they are mainly employed, and in all groups combined. Taking the average wage for all groups at the 30th April, 1914, as base (= 1000), index-numbers are given, computed on the average rate of wage ruling at the end of each period indicated.

Weighted Average Nominal Weekly Rate of Wage payable to Adult Female Workers for a Full Week's Work, and Wage Index-numbers in each Industrial Group, 30th April, 1914, to 31st December, 1918.‡

NOTE.—Index-numbers for each Industrial Group and all Industrial Groups, based on the Average Wage for all groups at 30th April, 1914 (27s. 2d), as base (= 1000). The index-numbers in this table are comparable throughout.

Industrial Group.		Weighted Average Nominal Weekly Rate of Wage, and Index-Number at—								
		30th April, 1914.	31st Dec., 1914.	31st Dec., 1915.	31st Dec., 1916.	31st Dec., 1917.	31st Mar., 1918.	30th June, 1918	30th Sept., 1918.	31st Dec., 1918.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
III. Food, Drink, etc.	Wage ..	22 6	23 5	24 5	25 4	26 4	27 0	27 8	28 5	29 8
	Index-No.	828	862	899	932	969	994	1,018	1,047	10 78
IV. Clothing, Boots etc.	Wage ..	24 9	24 11	25 1	26 11	29 7	29 8	29 11	30 1	30 9
	Index No.	911	917	923	991	1,089	1,091	1,100	1,107	1,131
I., II., V. & VI. All Other Manufactg.	Wage ..	26 11	27 0	27 4	29 5	30 4	30 8	30 10	31 1	32 0
	Index-No.	991	994	1,006	1,083	1,116	1,128	1,135	1,143	1,178
XIII. Domestic, Hotels, etc.* ..	Wage ..	31 1	30 2	30 9	31 2	33 5	33 6	33 6	34 1	34 1
	Index-No.	1,144	1,110	1,132	1,147	1,230	1,233	1,233	1,255	1,255
XIV. Miscellaneous ..	Wage ..	30 2	31 4	30 1	29 10	30 6	31 5	31 5	31 11	32 4
	Index-No.	1,110	1,153	1,107	1,098	1,123	1,156	1,156	1,173	1,189
All Groups ..	Wage ..	27 2	27 5	27 4	28 6	30 5	30 9	30 11	31 3	31 9
	Index-No.	†1,000	1,008	1,005	1,047	1,121	1,130	1,137	1,149	1,168

* See footnote § to table on page 83. † Weighted average. ‡ Particulars for the quarters omitted from this table will be found on page 74 of Report No. 8.

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It may be seen from the above table that the greatest increase in the weekly rate of wage has occurred in Group III. (Food, Drink, etc.), 30.2 per cent., followed in the order named by Groups IV. (Clothing, Boots, etc.), 24.1 per cent.; I., II., V. and VI. (All Other Manufacturing), 18.9 per cent., XIII. (Domestic, Hotels, etc.), 9.7 per cent., and the last group (Miscellaneous), 7.1 per cent. The weighted average weekly rate of wage for all groups was 16.8 per cent. higher at the end of 1918 than on the 30th April, 1914.

4. **Hours of Labour and Hourly Rates of Wage, 31st December, 1918.**—The rates of wage referred to in the preceding paragraphs of this Section relate to the minimum rates payable for a full week's work. It should be observed, however, that the number of hours which constitutes a full week's work differs in many instances, not only as between various trades and occupations in each State, but also as between the same trades and occupations in the several States. In order to secure what may be for some purposes a more adequate standard of comparison, the results given in the preceding paragraphs are herein reduced to a common basis, viz., the rate of wage per hour, classified according to industrial groups in each State and all States. In Appendixes VII. and VIII. of this Report, particulars in detail regarding the number of hours worked per week in the various industries in the several States are shewn. It will there be seen that the specified number of hours of labour per week covers a very wide range. In the following tables the average number of hours per week for each State, according to industrial groups, is given.

The tables on pages 91 and 92 shew (*a*) the average weekly wage, (*b*) the average number of working hours per week for a full week's work, and (*c*) the average hourly wage for adult male and female workers in each State and industrial group except Groups XI. (Shipping, etc.), and XII. (Pastoral, Agricultural, etc.). Owing to the fact that many of the occupations included in these two groups are of a casual or seasonal nature, and that the hours of labour are not generally regulated either by awards or determinations of industrial tribunals or otherwise, the necessary particulars for the computation of average working time and hourly rates of wage are not available.

The general effect of reducing the weighted average rates of wage to a common basis (*i.e.*, per hour) is to eliminate on comparison any apparent difference between the several States which may be due to unequal working time.

Weighted Average Nominal Weekly and Hourly Rates of Wage, Payable to Adult Male Workers, and Weekly Hours of Labour, 31st December, 1918.

Industrial Groups.	Particulars.†	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Average for Six Capital Towns.
I. Wood, Furniture, etc.	Weekly Wage	69/6	66/11	73/8	65/10	69/3	65/1	68/11
	Working Hours	48.02	48.07	46.24	47.90	48.00	48.00	47.75
	Hourly Wage	1/5¼	1/4¾	1/7	1/4½	1/5¼	1/4¼	1/5¼
II. Engineering, Metal Works, etc.	Weekly Wage	68/11	68/4	69/6	67/5	69/6	68/4	68/8
	Working Hours	48.00	48.00	45.74	48.00	47.95	48.00	47.77
	Hourly Wage	1/5¼	1/5	1/6¼	1/4¾	1/5½	1/5	1/5¼
III. Food, Drink, etc.	Weekly Wage	66/1	65/4	69/2	64/9	64/6	59/6	66/-
	Working Hours	48.56	48.51	47.65	48.43	48.72	48.79	48.37
	Hourly Wage	1/4¼	1/4¼	1/5½	1/4	1/4	1/2¾	1/4¼
IV. Clothing, Boots, etc.	Weekly Wage	63/3	59/5	64/10	60/8	64/-	53/6	61/5
	Working Hours	47.79	48.00	47.33	48.00	48.00	48.00	47.86
	Hourly Wage	1/4	1/2¾	1/4½	1/3¼	1/4	1/1½	1/3½
V. Books, Printing, etc.	Weekly Wage	75/2	74/9	73/7	69/-	73/6	69/3	74/1
	Working Hours	45.08	45.83	45.80	47.56	45.57	46.00	45.66
	Hourly Wage	1/8	1/7½	1/7¼	1/5½	1/7¼	1/6	1/7½
VI. Other Manufacturing	Weekly Wage	67/3	64/10	67/8	64/2	68/-	62/10	66/1
	Working Hours	47.94	48.14	46.92	48.09	48.09	48.13	47.95
	Hourly Wage	1/4¾	1/4¼	1/5¼	1/4	1/5	1/3¾	1/4½
VII. Building	Weekly Wage	76/-	74/5	74/2	69/10	73/3	69/-	74/3
	Working Hours	47.28	44.32	44.00	44.89	47.90	47.26	45.80
	Hourly Wage	1/7½	1/8¼	1/8¼	1/6¾	1/6¼	1/5½	1/7½
VIII. Mining‡	Weekly Wage	75/7	74/3	84/5	91/4	85/8	67/8	78/6
	Working Hours	45.18	44.94	43.03	44.44	46.13	47.18	45.05
	Hourly Wage	1/8	1/7¾	1/11½	2/0¾	1/10¼	1/5¼	1/9
IX. Rail & Tram Services	Weekly Wage	67/8	68/6	76/6	67/2	67/-	59/11	68/11
	Working Hours	48.29	48.15	48.63	48.50	48.46	49.80	48.36
	Hourly Wage	1/4¾	1/5	1/6¾	1/4½	1/4½	1/2½	1/5
X. Other Land Transport	Weekly Wage	62/1	63/11	65/11	62/1	66/-	65/3	63/5
	Working Hours	54.82	50.44	50.92	48.91	48.00	51.22	52.04
	Hourly Wage	1/1½	1/3¼	1/3½	1/3¼	1/4½	1/3¼	1/2½
XI. Shipping, etc. ..	Weekly Wage ‖	63/5	65/6	64/6	66/4	63/6	65/9	64/5
	Working Hours	..	..	..	..	..	..	..
	Hourly Wage	..	..	..	..	..	..	..
XII. Pastoral, Agricultural, etc.	Weekly Wage§	62/3	60/9	66/9	65/8	68/4	56/4	63/1
	Working Hours	..	..	..	..	..	..	..
	Hourly Wage	..	..	..	..	..	..	..
XIII. Domestic, Hotels, etc.	Weekly Wage§	57/2	52/-	64/5	58/1	60/3	43/6	56/7
	Working Hours	56.45	56.86	51.90	54.80	55.53	58.00	55.81
	Hourly Wage	1/0¼	-/11	1/3	1/0¾	1/1	-/9	1/0¼
XIV. Miscellaneous ..	Weekly Wage	62/1	64/11	64/8	61/1	63/11	60/10	63/3
	Working Hours	47.99	48.23	47.96	47.80	46.98	48.14	47.98
	Hourly Wage	1/3½	1/4¼	1/4¼	1/3¼	1/4¼	1/3¼	1/3¾
All Groups	Weekly Wage	65/11	65/6	69/6	65/6	70/4	61/2	66/5
All Groups excepting XI. and XII	Weekly Wage	67/-	66/6	70/9	65/5	71/1	63/-	67/5
	Working Hours	48.16	47.98	46.90	47.77	47.69	48.39	47.88
	Hourly Wage	1/4¾	1/4¾	1/6	1/4½	1/6	1/3¾	1/5

† Particulars relate to the Average Weighted weekly wage, working hours and hourly wage, respectively. ‡ Average rates of wage and hours prevailing at the principal mining centres in each State. ‖ Average rates of wage are for occupations other than Masters, Officers, and Engineers in the Merchant Marine Service, and include value of victualling and accommodation, where provided, but does not include value of commission on bar sales to stewards. In the recent award for Masters and Officers on inter-State and intra-State merchant vessels, the annual value of victualling and accommodation, which was estimated in 1910 at £30, was computed to be £43 17s. § See footnotes to table on page 83.

Weighted Average Nominal Weekly and Hourly Rates of Wage payable to Adult Female Workers, and Weekly Hours of Labour, 31st December, 1918.

Industrial Groups.	Particulars.*	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Average for Six Capital Towns.
III. Food, Drink, etc.	Weekly Wage	28/10	30/3	31/1	25/-	21/3	24/9	29/3
	Working Hours	47.90	48.00	48.00	48.00	48.00	48.00	47.97
	Hourly Wage	-/7¼	-/7½	-/7¾	-/6¼	-/5¼	-/6½	-/7½
IV. Clothing, Boots, etc.	Weekly Wage	31/10	30/-	30/7	29/11	35/11	26/11	30/9
	Working Hours	47.61	48.00	47.52	48.00	48.00	46.50	47.79
	Hourly Wage	-/8	-/7½	-/7¾	-/7½	-/9	-/7	-/7¾
I. II. V. & VI. All other Manufacturing	Weekly Wage	31/5	32/9	29/2	33/3	..	32/-	32/-
	Working Hours	47.15	47.90	47.43	47.50	..	48.00	47.57
	Hourly Wage	-/8	-/8¼	-/7¼	-/8½	..	-/8	-/8
XIII. Domestic, Hotels, etc.	Weekly Wage†	33/5	31/5	37/8	29/3	42/5	32/8	34/1
	Working Hours	51.01	50.46	50.33	50.67	49.60	58.00	50.78
	Hourly Wage	-/7¾	-/7½	-/9	-/7	-/10½	-/6¾	-/8
XIV. Shop Assistants, Clerks, etc.	Weekly Wage	31/4	34/5	32/6	28/3	..	..	32/4
	Working Hours	48.00	48.00	48.00	49.00	..	..	48.10
	Hourly Wage	-/7¾	-/8½	-/8¼	-/7	..	..	-/8
All Groups ..	Weekly Wage	31/10	31/3	32/10	29/5	38/10	28/9	31/9
	Working Hours	48.35	48.32	48.37	48.73	48.78	49.83	48.42
	Hourly Wage	-/8	-/7¾	-/8¼	-/7¼	-/9½	-/7	-/7¾

* The particulars relate to the **Average Weighted** weekly rates of wage, working hours and hourly wage, respectively. † See footnote § to table on page 83.

5. **Relative Hours of Labour and Hourly Rates of Wage, 1914 to 1918.**—Particulars are given in the following table, classified according to States for male and female occupations separately at 30th April, 1914, and at the end of December, 1914 to 1918. These particulars relate to (a) the weighted average weekly wage, (b) the weighted average number of working hours constituting a full week's work, and (c) the weighted average hourly wage. It should be observed that the weighted average weekly wage relates to all industrial classes combined, and includes the value of board and lodging where supplied in land occupations and the value of victualling in marine occupations,§ whereas the number of working hours, and the hourly wage relate to all industrial classes other than Groups XI. (Shipping), and XII. (Agricultural, Pastoral, etc.). Owing to the fact that many of the occupations included in these two groups are of a casual or seasonal nature, and that the hours of labour in these occupations are not generally regulated either by awards or determinations of industrial tribunals or otherwise, the necessary data for the computation of the average number of working hours are not available.

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§ See footnotes to table on page 83.

Weighted Average Nominal Weekly and Hourly Rates of Wage payable to Adult Workers, and Weekly Hours of Labour, 30th April, 1914, and at the end of the years, 1914 to 1918.

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
				MALE WORKERS.				
30th April, 1914.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage* ..	55 9	54 3	52 8	54 4	62 2	52 6	55 1
	Working Hours†	49.42	48.80	48.78	48.60	47.78	48.62	48.93
	Hourly Wage† ..	1/2	1/1¾	1/1½	1/1¾	1/4¼	1/1	1/2
31st Dec., 1914.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage* ..	56 2	54 7	53 5	54 5	62 10	52 8	55 7
	Working Hours†	49.35	48.66	48.64	48.59	48.18	48.62	48.87
	Hourly Wage† ..	1/2	1/1¾	1/1¾	1/1¾	1/4¼	1/1	1/2
31st Dec., 1915.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage* ..	57 7	55 3	54 4	54 8	63 4	53 2	56 6
	Working Hours†	49.28	48.50	48.56	48.50	48.12	48.56	48.77
	Hourly Wage† ..	1/2¼	1/2	1/2	1/2	1/4½	1/1¼	1/2¼
31st Dec., 1916		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d
	Weekly Wage* ..	61 11	58 10	60 4	59 0	65 2	57 0	60 8
	Working Hours†	48 51	48.22	48.27	48.14	48.11	48.55	48.33
	Hourly Wage† ..	1/3¾	1/3	1/3¼	1/3	1/4¾	1/2	1/3¼
31st Dec., 1917		s d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage* ..	64 5	63 0	65 3	63 1	68 11	59 7	64 2
	Working Hours† ..	48.41	48.14	47.19	47.82	48.10	48.48	48.10
	Hourly Wage† ..	1/3¾	1/4	1/5	1/4	1/5½	1/3	1/4¼
31st Dec., 1918.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage ..	67 0	66 6	70 9	65 5	71 1	63 0	67 5
	Working Hours ..	48.16	47.98	46.90	47.77	47.69	48.39	47.88
	Hourly Wage ..	1/4¾	1/4¾	1/6	1/4½	1/6	1/3¾	1/5
				FEMALE WORKERS.				
30th April, 1914.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage ..	26 9	27 4	26 11	24 1	37 4	25 10	27 2
	Working Hours ..	49.34	48.54	49.32	49.33	48.69	50.76	49.08
	Hourly Wage ..	-/6½	-/6¾	-/6½	-/5¾	-/9¼	-/6	-/6¾
31st Dec., 1914.		s. d.	s. d.	s. d.	s. d.	s. d.	s d.	s. d.
	Weekly Wage ..	26 10	27 9	27 1	24 1	37 4	25 10	27 5
	Working Hours ..	49.34	48.54	49.82	49.33	49.44	50.76	49.11
	Hourly Wage ..	-/6½	-/6¾	-/6½	-/5¾	-/9	-/6	-/6¾
31st Dec., 1915.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage ..	27 5	26 11	26 11	24 6	37 5	28 0	27 4
	Working Hours ..	49.45	48.46	49.84	49.35	49.86	50.14	49.12
	Hourly Wage ..	-/6¾	-/6¾	-/6½	-/6	-/9	-/6¾	-/6¾
31st Dec., 1916.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage ..	28 7	28 5	27 3	24 10	38 10	28 3	28 5
	Working Hours ..	49.44	48.36	49.85	49.02	49.08	49 83	49.02
	Hourly Wage ..	-/7	-/7	-/6½	-/6	-/9½	-/6¾	-/7
31st Dec., 1917		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage ..	30 5	30 4	30 5	27 9	38 10	28 5	30 5
	Working Hours ..	48.98	48.32	48.99	48.73	48.78	49.83	48.71
	Hourly Wage ..	-/7½	-/7½	-/7½	-/6¾	-/9½	-/6¾	-/7½
31st Dec., 1918.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	Weekly Wage* ..	31 10	31 3	32 10	29 5	38 10	28 9	31 9
	Working Hours† ..	48.35	48.32	48.37	48.73	48.78	49.83	48.42
	Hourly Wage† ..	-/8	-/7¾	-/8¼	-/7¼	-/9½	-/7	-/7¾

* Weighted average weekly wage in all industrial groups combined.

† Weighted average working hours per week, and computed hourly rates of wage for all industrial groups excepting Groups XI. (Shipping, etc.), and XII. (Agricultural, Pastoral, etc.). Working hours have not been generally regulated by industrial tribunals for occupations classified in Industrial Groups XI. and XII.

From the foregoing table it may be seen that there has been a diminution in each of the States in the number of working hours constituting a full week's work for male occupations, and (with the exception of Western Australia) for female occupations also. The effect of these changes on the hourly rate of wage as compared with the general increase in the weekly wage is readily seen from the comparative index-numbers given in the following table. In each instance (male and female occupations separately) the basis taken is the weighted average for the Commonwealth at the 30th April, 1914 (= 1000).

Relative Index-numbers for Weekly and Hourly Weighted Average Wage, 30th April, 1914, 31st December, 1914 to 1918.

NOTE.—Weighted Average for the Commonwealth at 30th April, 1914, as base (= 1000).

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
				MALE WORKERS.				
30th April, 1914.	Weekly Wage ..	1,011	984	955	986	1,128	952	1,000
	Hourly Wage ..	998	980	963	991	1,170	933	1,000
31st Dec., 1914.	Weekly Wage ..	1,019	990	969	988	1,140	956	1,008
	Hourly Wage ..	1,010	990	985	993	1,173	936	1,009
31st Dec., 1915.	Weekly Wage ..	1,044	1,002	986	992	1,149	965	1,023
	Hourly Wage ..	1,039	1,006	1,008	1,001	1,182	946	1,030
31st Dec., 1916.	Weekly Wage ..	1,123	1,067	1,095	1,071	1,182	1,034	1,100
	Hourly Wage ..	1,127	1,074	1,097	1,075	1,206	1,011	1,105
31st Dec., 1917.	Weekly Wage ..	1,168	1,143	1,183	1,144	1,250	1,081	1,164
	Hourly Wage ..	1,162	1,138	1,209	1,145	1,252	1,079	1,164
31st Dec. 1918.	Weekly Wage ..	1,196	1,189	1,261	1,188	1,276	1,110	1,205
	Hourly Wage ..	1,196	1,192	1,297	1,176	1,282	1,120	1,210
				FEMALE WORKERS.				
30th April, 1914.	Weekly Wage ..	984	1,006	989	885	1,373	950	1,000
	Hourly Wage ..	980	1,021	976	881	1,386	920	1,000
31st Dec., 1914.	Weekly Wage ..	987	1,022	996	885	1,373	950	1,008
	Hourly Wage ..	983	1,035	983	881	1,364	920	1,009
31st Dec., 1915.	Weekly Wage ..	1,007	990	990	901	1,376	1,031	1,005
	Hourly Wage ..	1,002	1,005	976	898	1,357	1,011	1,009
31st Dec., 1916.	Weekly Wage ..	1,050	1,047	1,004	915	1,429	1,041	1,047
	Hourly Wage ..	1,044	1,063	991	916	1,431	1,027	1,048
31st Dec., 1917.	Weekly Wage ..	1,119	1,116	1,120	1,020	1,430	1,045	1,121
	Hourly Wage ..	1,122	1,134	1,122	1,027	1,440	1,029	1,130
31st Dec., 1918.	Weekly Wage ..	1,173	1,151	1,208	1,084	1,430	1,059	1,168
	Hourly Wage ..	1,191	1,169	1,226	1,092	1,426	1,044	1,185

SECTION X.—VARIATIONS IN NOMINAL AND EFFECTIVE WAGES.

1. **General.**—From the beginning of the year 1913, records have been kept of all changes in rates of wage and hours of labour, the number of workers affected, and the methods by which such changes are brought about. The results of these records have been published in the quarterly Labour Bulletins and in Labour Reports Nos. 5, 6, 7 and 8. In order to supplement the results thus obtained, investigations have been made regarding rates of wage in past years with a view to shewing their general trend in each State and in various industrial groups. The methods adopted for the collection of the data and computation of the results were explained in Report No. 2 (see pages 23-4), and will not be repeated here. The particulars given in this Section shew variations in nominal wages from year to year in each State and in various industrial groups. Index-numbers are also given shewing variations in effective wages in each State.

The total number of occupations for which particulars are available back to 1891 is 652. In 1913, however, the scope of the investigation was extended, and particulars for that year are available for no fewer than 3948 male occupations The wages on which the index-numbers are based are, in the majority of cases, minimum rates fixed by industrial tribunals, but in some cases, particularly in the earlier years when no minimum rates had been fixed for many trades, either union or predominant rates have been taken.

2. **Weighted Average Nominal Weekly Rate of Wage in each and all States, 30th April, 1914, to 31st December, 1918.**—In the following table the weighted average nominal weekly rate of wage for adult workers (male and female separately), is shewn for each State and the Commonwealth, as at 30th April, 1914, and approximately quarterly intervals to the 31st December, 1918 :—

Weighted Average Nominal Weekly Rate of Wage Payable to Adult Workers for a Full Week's Work in each State and Commonwealth, 30th April, 1914, to 31st December, 1918.*

Dates.	N.S.W.		Vic.		Q'land.		S.A.		W.A.		Tas.		C'wlth.	
MALES.														
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
30th April, 1914	55	9	54	3	52	8	54	4	62	2	52	6	55	1
30th June, 1914	55	11	54	4	52	10	54	4	62	9	52	7	55	3
30th September, 1914	56	2	54	7	53	4	54	5	62	10	52	8	55	6
31st December, 1914	56	2	54	7	53	5	54	5	62	10	52	8	55	7
31st March, 1915	56	3	54	8	53	4	54	3	63	1	52	9	55	7
30th June, 1915	56	8	54	8	53	4	54	3	63	1	52	9	55	9
30th September, 1915	56	10	54	11	53	8	54	3	63	1	52	9	56	0
31st December, 1915	57	7	55	3	54	4	54	8	63	4	53	3	56	6
31st March, 1916	58	2	56	7	55	1	55	8	63	4	53	9	57	3
30th June, 1916	58	11	57	0	56	5	56	1	63	4	54	4	57	11
30th September, 1916	59	6	57	9	57	11	56	6	63	8	54	9	58	8
31st December, 1916	61	11	58	10	60	4	59	0	65	2	57	0	60	8
31st March, 1917	62	7	60	0	61	2	59	8	65	5	57	6	61	5
30th June, 1917	63	5	61	2	62	4	61	0	66	4	57	7	62	5
30th September, 1917	63	9	62	3	63	5	61	6	67	10	58	6	63	3
31st December, 1917	64	5	63	0	65	3	63	1	68	11	59	7	64	2
31st March, 1918	64	8	63	2	65	4	63	1	69	0	59	10	64	4
30th June, 1918	64	9	63	4	65	7	63	3	69	5	60	2	64	6
30th September, 1918	65	0	63	9	67	0	63	7	69	6	60	4	65	0
31st December, 1918	65	11	65	6	69	6	65	6	70	4	61	2	66	5
FEMALES.														
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
30th April, 1914	26	9	27	4	26	11	24	1	37	4	25	10	27	2
30th June, 1914	26	9	27	4	27	0	24	1	37	4	25	10	27	2
30th September, 1914	26	10	27	9	26	11	24	1	37	4	25	10	27	4
31st December, 1914	26	10	27	9	27	1	24	1	37	4	25	10	27	5
31st March, 1915	26	10	26	11	27	2	24	0	37	5	26	3	27	1
30th June, 1915	27	2	26	11	27	2	24	0	37	5	26	3	27	2
30th September, 1915	27	3	26	11	26	11	24	0	37	5	28	0	27	3
31st December, 1915	27	5	26	11	26	11	24	6	37	5	28	0	27	4
31st March, 1916	27	7	27	11	26	11	24	6	37	5	28	4	27	9
30th June, 1916	27	7	27	11	26	11	24	6	37	5	27	9	27	9
30th September, 1916	27	11	28	2	27	2	24	10	37	5	27	9	28	1
31st December, 1916	28	7	28	5	27	3	24	10	38	10	28	3	28	5
31st March, 1917	29	1	28	10	27	5	25	9	38	10	28	4	28	11
30th June, 1917	29	3	28	10	27	9	27	3	38	10	28	4	29	1
30th September, 1917	30	2	29	7	30	0	27	8	38	10	28	4	30	0
31st December, 1917	30	5	30	4	30	5	27	9	38	10	28	5	30	5
31st March, 1918	31	0	30	5	30	7	27	10	38	10	28	5	30	9
30th June, 1918	31	3	30	6	30	8	28	6	38	10	28	5	30	11
30th September, 1918	31	5	30	9	32	3	28	8	38	10	28	5	31	3
31st December, 1918	31	10	31	3	32	10	29	5	38	10	28	9	31	9

* Details have been published as follows :—To 30th April, 1914 (Labour Report No. 5, pp. 44-6); to 31st December, 1914 (Labour Bulletin No. 8, pp. 256-8); to 31st March, 1915, (Labour Bulletin No. 9, pp. 68-71); to 30th June, 1915 (Labour Bulletin No. 10, pp. 170-6), to 30th September, 1915 (Labour Bulletin No. 11, pp. 264-5); to 31st December, 1915 (Labour Bulletin No. 12, pp. 413-15); to 31st March, 1916 (Labour Bulletin No. 13, pp. 82-3); to 30th June, 1916 (Labour Bulletin No. 14, pp. 190-1); to 30th September, 1916 (Labour Bulletin No. 15, pp. 300-1); to 31st December, 1916 (Labour Report No. 7, pp. 412-426); to 30th June, 1917 (Labour Bulletin No. 18, pp. 165-168); and to 31st December, 1917 (Labour Report No. 8, pp. 79 to 92).

(i.) *Adult Male Workers.*—It will be seen that the weighted average nominal weekly rate of wage for adult male workers for the whole Commonwealth advanced during the period reviewed by 11s. 4d. In all the States except Queensland the increase was below the average, being in Victoria 11s. 3d., in South Australia 11s. 2d., in New South Wales 10s. 2d., in Tasmania 8s. 8d., and in Western Australia 8s. 2d. The increase in Queensland amounts to 16s. 10d. At the 30th April, 1914, the highest average rate of wage was 62s. 2d. in Western Australia, followed in the order named by New South Wales, South Australia, Victoria, Queensland, and Tasmania. At the 31st December, 1918, Western Australia had still the highest average rate of wage, followed in the order named by Queensland, New South Wales, South Australia, and Victoria equal, and Tasmania.

(ii.) *Adult Female Workers.*—During the period covered by the table the weighted average nominal weekly rate of wage for adult female workers, for the whole Commonwealth, shews considerably less movement, being 4s. 7d. per week only. The greatest increases occurred in New South Wales, Queensland and South Australia. The decrease of 5d. in Victoria, between the 30th April, 1914, and the end of 1915, was brought about by the reduction, on appeal, of the minimum rates of wage to female clerks and stenographers.

3. **Variations in Nominal Wage Index-numbers in Industrial Groups, 1901 to 1918.**—The following table shews variations in nominal wage index-numbers, the occupations having been classified in fourteen industrial groups. As already pointed out, these index-numbers are comparable throughout, and shew, not only the variations in wages in each industrial group, but also the relative wages as between the several groups :—

Variations in Nominal Wage Index-numbers in different Industries in the Commonwealth, for years specified, 1901 to 1918. (Weighted Average Wage for all Groups in 1911 = 1,000.)

Particulars.	No. of occupations included.		1901.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
	1901 to 1912.	1913-18.											
I. Wood, Furniture, etc.	27	270	1,019	1,055	1,097	1,125	1,144	†1142	1,161	1,174	1,245	1,288	1,345
II. Engineering, Metal Works, etc. ..	101	636	945	995	1,006	1,064	1,104	1,113	1,127	1,174	1,211	1,268	1,340
III. Food, Drink, etc. ..	34	576	871	914	928	991	1,038	1,074	1,085	1,127	1,194	1,241	1,288
IV. Clothing, Hats, Boots, etc.	13	124	708	935	976	981	990	1,019	1,034	1,037	1,104	1,163	1,198
V. Books, Printing, etc.	25	205	996	1,070	1,102	1,149	1,188	1,234	1,246	1,259	1,328	1,376	1,446
VI. Other Manufacturing	102	875	907	923	947	1,013	1,037	1,076	1,093	1,125	1,203	1,245	1,289
VII. Building	67	190	1,050	1,130	1,163	1,213	1,245	1,270	1,276	1,285	1,359	1,413	1,449
VIII. Mining, Quarries, etc.	71	161	1,067	1,120	1,168	1,194	1,216	1,270	1,272	1,299	1,420	1,528	1,532
IX. Rail & Tram Services	68	224	1,021	1,064	1,074	1,113	1,164	1,165	1,165	1,187	1,236	1,286	1,345
X. Other Land Transport	9	70	795	836	889	910	993	996	1,026	1,041	1,128	1,210	1,237
XI. Shipping, etc. ..	74	198	751	856	857	871	942	953	972	1,026	1,153	1,194	1,257
XII. Agricultural, Pastoral, etc.	8	72	627	787	798	839	944	965	965	969	1,073	1,192	1,231
XIII. Domestic, Hotels, etc.	17	114	598	727	743	887	894	918	935	948	995	1,052	1,104
XIV. Miscellaneous ..	36	233	759	843	889	929	1,015	1,045	1,054	1,065	1,137	1,185	1,234
All Groups *	652	3,948	848	923	955	1,000	1,051	1,076	1,085	1,102	1,184	1,252	1,296

* Weighted average; see graph on page 101 hereof. † The slight decrease in this group was due to a reduction in the award rates in the Furniture Trade in New South Wales, resulting from an appeal made by employers.

4. Variations in Nominal Wage Index-Numbers in States, 1901 to 1918.—The following table shews, by means of index-numbers, the variations in wages for all industries in each State, the weighted average wage for the Commonwealth in 1911 being taken as base (= 1000). These results are based generally upon rates of wage prevailing in the capital towns of each State, but in certain industries, such as mining, agriculture, etc., rates are necessarily taken for places outside the metropolitan areas :—

Variations in Nominal Wage Index-numbers in different States, for years specified, 1901 to 1918. (Weighted Average Wage for Commonwealth in 1911 = 1,000.)

Particulars.	No. of occupations included.		1901.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
	1901 to 1912.	1913-18.												
N.S. Wales..	158	874	858	913	942	968	1,003	1,058	1,088	1,096	1,124	1,208	1,257	1,286
Victoria ..	150	909	796	871	887	924	985	1,038	1,058	1,065	1,078	1,148	1,229	1,278
Queensland	87	627	901	925	946	960	997	1,010	1,027	1,042	1,060	1,177	1,273	1,356
S. Australia	134	567	819	868	905	951	1,013	1,048	1,061	1,062	1,067	1,151	1,231	1,278
W. Australia	69	489	1,052	1,061	1,068	1,116	1,152	1,191	1,214	1,226	1,236	1,272	1,345	1,372
Tasmania ..	54	482	719	725	732	772	799	934	1,025	1,028	1,039	1,112	1,163	1,193
C'wealth*	652	3,948	848	900	923	955	1,000	1,051	1,076	1,085	1,102	1,184	1,252	1,296

* Weighted average ; see graph on page 101.

The significance of the above figures since 1906 can be better appreciated by reference to the graph on page 101 which shews, of course, not only variations in wages in each State from year to year, but also the difference in wage-level as between the several States. From this graph it is clearly seen that, excluding Western Australia, the difference between nominal wages in the several States has decreased very considerably since 1906. This difference is shewn at any point by the vertical distance between the graphs. Wages in Queensland have increased since 1914 at a higher rate than in any other State, and the general level in that State is now higher than in any State except Western Australia. The graphs for Victoria and South Australia lie very close together throughout the period. In Tasmania the first determination under the Wages Boards Acts, 1910-1911, came into force in 1911. Since then wages in that State have increased rapidly, and their general level is now not far below those of the other States, except Queensland and Western Australia.

5. Average Nominal Weekly Wage in the Several States, 1891 to 1918.—The following table shews the average weekly rate of wage payable to adult male workers in each State from 1891 to 1918. The wages given in this table are relatively identical with the index-numbers shewn in the table above.

Average Nominal Rates of Wage Payable to Adult Male Workers in each State for the years specified from 1891 to 1918.

Particulars.	1891.		1896.		1901.		1908.		1909.		1910.		1911.		1912.		1913.		1914.		1915.		1916.		1917.		1918.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s	d.	s.	d.
N. S. Wales	44	1	42	1	43	11	46	9	48	3	49	7	51	5	54	3	55	9	56	2	57	7	61	11	64	5	65	11
Victoria ..	40	5	38	9	40	9	44	7	45	5	47	4	50	6	53	2	54	3	54	7	55	3	58	10	63	0	65	6
Queensland..	46	6	44	8	46	2	47	4	48	5	49	2	51	1	51	9	52	8	53	5	54	4	60	4	65	3	69	6
S. Australia	41	7	41	8	42	0	44	6	46	4	48	9	51	11	53	9	54	4	54	5	54	8	59	0	63	1	65	6
W. Australia	52	4	53	7	53	11	54	4	54	9	57	2	59	0	61	0	62	2	62	10	63	4	65	2	68	11	70	4
Tasmania ..	38	6	35	6	36	10	37	1	37	5	39	6	41	0	47	10	52	6	52	8	53	3	57	0	59	7	61	2
C'wealth ..	43	5	41	10	43	5	46	1	47	3	48	11	51	3	53	10	55	1	55	7	56	6	60	8	64	2	66	5

The average weekly rate in 1918 was highest in Western Australia, followed in the order named by Queensland, New South Wales, South Australia and Victoria equal, and Tasmania. In each of the years specified the weekly rates were highest in Western Australia, and lowest in Tasmania. In each of the States of New South Wales, Victoria, and Queensland, the rates shew an increase in each of the years specified except in 1896, when there was a decrease compared with 1891. In South Australia there was an increase in each of the years specified, while in Western Australia the average rates remained constant in 1901, 1906, and 1907, with increases in each other year. In Tasmania there was a decrease in 1896 and again in 1907, and substantial increases in 1912 and 1913.

6. **Average Nominal Weekly Wage Payable in Industrial Groups, 1891 to 1918.**—The following table shews for each of the years indicated the average weekly wages payable in each of the fourteen industrial groups. The wages are *relatively* identical with the index-numbers shewn in the table on page 96.

Average Nominal Rate of Wage Payable to Male Adult Workers in each Industrial Group, for the years specified from 1891 to 1918.

Particulars.	1891.		1896.		1901.		1908.		1909.		1910.		1911.		1912.		1913.		1914.		1915.		1916.		1917.		1918.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Group I.	52	5	48	2	52	3	53	10	54	1	56	2	57	8	58	7	58	6	59	6	60	2	63	10	66	0	68	11
,, II.	47	8	47	7	48	5	50	8	51	0	51	7	54	6	56	7	57	0	57	9	60	2	62	1	65	0	68	8
,, III.	38	2	37	11	44	7	46	5	46	10	47	6	50	9	53	2	55	0	55	8	57	9	61	2	63	7	66	0
,, IV.	36	8	36	5	36	3	44	5	47	11	50	0	50	3	50	9	52	3	53	0	53	2	56	7	59	7	61	5
,, V.	53	5	50	1	51	0	52	3	54	10	56	6	58	11	60	11	63	3	63	10	64	6	68	1	70	6	74	1
,, VI.	46	4	44	8	46	5	46	10	47	3	48	6	51	11	53	1	55	1	56	0	57	8	61	8	63	10	66	1
,, VII.	50	6	47	6	53	10	57	1	57	11	59	7	62	1	63	10	65	1	65	5	65	10	69	8	72	5	74	3
,, VIII.	58	1	53	10	54	8	57	2	57	5	59	10	61	2	62	4	65	1	65	2	66	7	72	9	78	4	78	6
,, IX.	50	10	51	0	52	4	52	10	54	6	55	0	57	0	59	7	59	8	59	8	60	10	63	4	65	11	68	11
,, X.	39	6	36	0	40	9	42	10	42	10	45	7	46	7	50	10	51	1	52	8	53	4	57	10	62	0	63	5
,, XI.	38	2	34	6	38	5	40	4	43	10	43	11	44	7	48	3	48	10	49	10	52	7	59	1	61	2	64	5
,, XII.	34	10	33	6	32	1	37	8	40	4	40	11	43	0	48	4	49	5	49	5	49	8	55	0	61	1	63	1
,, XIII.	32	10	30	6	30	8	32	1	37	3	38	1	45	5	45	10	47	0	47	11	48	7	51	0	53	11	56	7
,, XIV.	39	7	38	7	38	10	42	0	43	2	45	6	47	7	52	0	53	7	54	0	54	7	58	3	60	9	63	3
ALL GROUPS	43	5	41	10	43	5	46	1	47	3	48	11	51	3	53	10	55	1	55	7	56	6	60	8	64	2	66	5

It may be seen that in 1918 the weekly rate of wage was highest in Group VIII. (Mining), 78s. 6d., while the lowest average weekly rate was in Group XIII. (Domestic, Hotels, etc.), where the rate was 56s. 7d. The average weekly rate for all groups together increased in all the years since 1891 except in 1896. The rate in 1901 was the same as in 1891, (43. 5d.), but in 1917 had increased to 64s. 2d., and in 1918 to 66s. 5d.

7. **Nominal Wages and Effective Wages.**—Wages are said to be *nominal* when they refer to the actual amounts of money received in

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return for labour, and are described as *effective* when their equivalence in purchasing power is expressed, that is their purchasing power according to some definite "composite unit" or "regimen," the cost of which is ascertained at a particular date or during a particular period adopted as a datum for reference. From what was said in Section IV., par. 3, of Labour Report No. 6, it is obvious that "effectiveness" of wages can be unequivocally ascertained only when changes in price vary normally, that is to say, when it is practicable and reasonable to regard the "composite unit" as continuously applicable. Estimations of the effectiveness of wages when the original regimen or composite unit ceases to be of reasonable application, as may be the case in times of severe drought, war, etc., become of more or less questionable validity. At such times some modification of the accustomed regimen may (or should) take place, and in the degree to which such modification may occur effective wages will become involved in uncertainty. It should, consequently, be borne in mind that index-numbers of effective wages, computed on the supposition of the continual maintenance of a constant regimen cannot be taken to really represent unequivocally the actual effectiveness of wages: they represent rather what *would* have been the effectiveness of wages, had the "composite unit" throughout been virtually the one in use with the wage-earning community. The limitations indicated in Section IV., par. 3, of Labour Report No. 6, already referred to, apply also here. *Fundamental changes in the usage of commodities vitiate this or any other method*, as is obvious from the analysis of the technique for properly ascertaining price-indexes outlined in Report No. 1, Appendix VIII., pp. 23 to 38, and in Appendix I. hereof. Just as there is no unequivocal means of comparing price-indexes, between say a rice-eating and a meat-eating community, or between a community living according to a very elementary standard of comfort, and one living according to a more advanced standard, so there is in its degree no unequivocal method of computing effectiveness of wages, when the circumstances of the time involve material changes in the "regimen," or are characterised by a temporary passing through abnormal conditions, profoundly affecting the conditions of living.

8. **Variations in Effective Wages in each State, 1901 to 1918.**—In comparing wages two elements are of obvious importance, viz., (i.) hours worked per day or week, etc., and (ii.) the purchasing-power of money (in regard to the composite unit adopted). Thus 60s. per week of 60 hours is equivalent to 48s. per week of 48 hours on the time basis. Similarly, on the purchasing-power basis, if the purchasing-power *fall* one-fifth, *i.e.*, if the index-number of the purchasing-power *rises* from 1000 to 1250*, then 60s. per week (the index-number being 1250), is effectively equal only to 48s. (when the index-number was 1000). Or, again, if the purchasing power *rise* one-third, as is implied by a *fall* in the index-number from 1000 to 750, then 60s. per week originally would, as regards the composite unit, be equal in purchasing power to 80s. Ignoring altogether for the present the number of hours worked and subject to the limitations referred to in the preceding paragraph, and further assuming that the real value of the average wages is to be measured by their purchasing power in regard to the "composite unit" adopted, then we can reduce the actual average wages paid to their effective value by applying the pur-

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* Or from any value to one-fifth greater.

chasing-power-of-money index-numbers to the nominal wages index-numbers. The following table shews the effective wage index-numbers in each State for each of the years indicated from 1901 to 1918.

In computing these effective wage index-numbers the nominal wage index-numbers given in paragraph 4 hereof have been divided by the purchasing-power-of-money index-numbers in Section IV., paragraph 5 hereinbefore. The resulting index-numbers shew for each State and for the Commonwealth for the years specified the variations in *effective* wages.

Variations in Effective Wages in each State and Commonwealth, for the Years specified, 1901 to 1918.*

Particulars.	1901.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
N.S.W. ..	961	926	952	973	973	922	924	909	850	867	893	902
Victoria ..	915	941	980	981	1,037	981	1,007	964	844	877	950	947
Queensland	1,172	1,081	1,112	1,095	1,090	1,032	1,060	1,045	912	991	1,078	1,083
S. Australia	948	911	914	943	957	906	947	929	847	896	989	957
W. Australia	1,024	1,060	1,081	1,091	1,023	1,032	1,076	1,073	1,011	1,005	1,079	1,107
Tasmania ..	827	788	769	812	838	896	976	943	843	870	894	880
C'wealth	964	946	974	985	1,000	955	975	952	862	894	950	952

* As to the effect in abnormal periods, see Section IV., par. 3, of Labour Report No. 6.

The figures in the above table from the year 1906 onwards are shewn in the graph on page 102. A comparison between this graph with that on the opposite page shews that the difference between nominal and effective wages is very marked. In the first place, the whole nature of the graphs is entirely different. Instead of having a series of lines shewing a practically continuous and rapid upward trend, the effective wages shew (except for Tasmania) a series of fluctuating points, in which no very marked tendency is immediately discernible. It will be seen that, generally speaking, the years 1907, 1909, 1910, 1911, 1913, 1916, 1917 and 1918, were marked by increases in effective wages, but that in each of the years 1908, 1912, 1914 and 1915, there were rapid decreases. In each of these years in which effective wages declined there was a rapid increase in cost of food and groceries (see graphs on pp. 29-31). In 1914 the wages increased 0.9 per cent., but the purchasing-power-of-money index-number went up 3.1 per cent., with the result that effective wages decreased 2.3 per cent. In 1915 the nominal wage index-number increased 1.6 per cent., while the purchasing-power-of-money index-number increased 12.1 per cent., resulting in a decrease of 9.5 per cent. in the effective wage. In 1916 the nominal wage index-number increased 7.4 per cent., and the purchasing-power-of-money index-number only 3.6 per cent. which resulted in the effective wage index-number shewing an increase of 3.7 per cent. In 1917 the nominal wage index-number increased 5.7 per cent., and the purchasing-power-of-money index-number decreased 0.5 per cent., resulting in an increase in the effective wage index-number of 6.3 per cent. In 1918 the nominal wage index-number increased 3.5 per cent., and the purchasing-power-of-money index-number 3.3 per cent. The effective wage index-number for the Commonwealth shews a small increase of 0.2 per cent.

One important feature common to both graphs (nominal and effective wages) is the manner in which the graphs for the individual States

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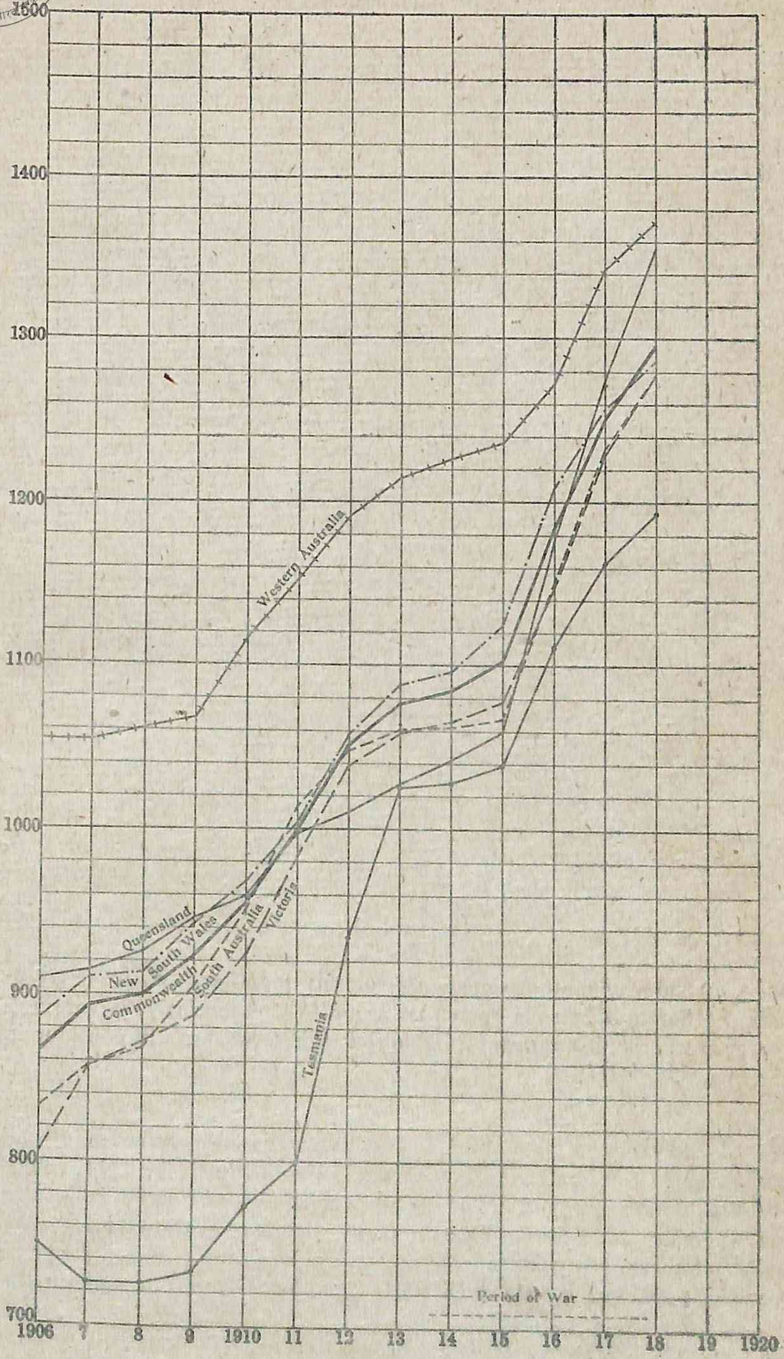
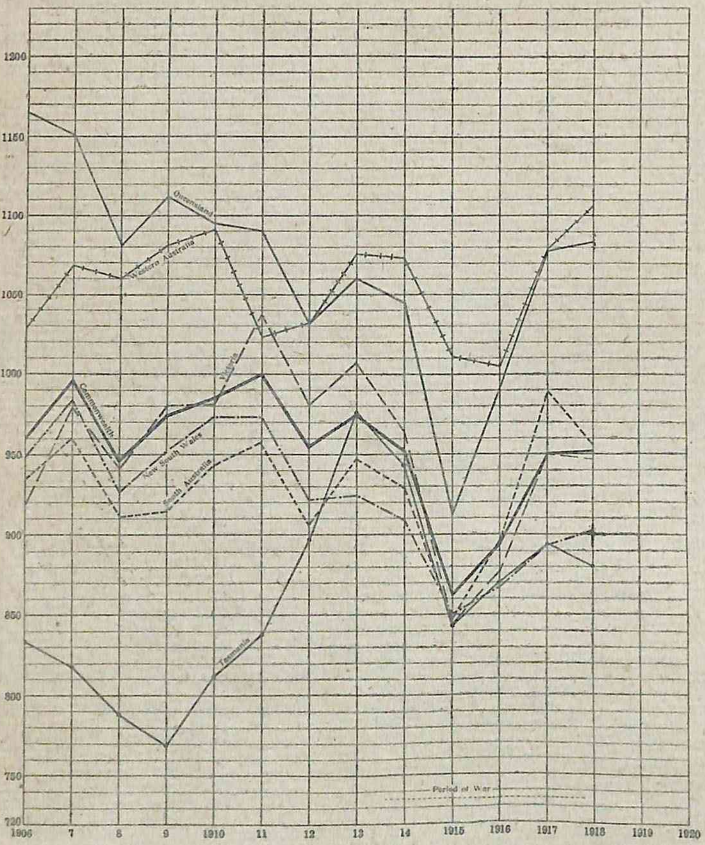
NOMINAL WAGE INDEX-NUMBERS IN EACH STATE, AND COMMONWEALTH, 1906 to 1918.



EFFECTIVE WAGE INDEX-NUMBERS IN EACH STATE, AND COMMONWEALTH, 1906 to 1918.



have, on the whole, approached more closely together. With the adoption of differential rates of wage fixed according to the relative purchasing-power of money, it appears probable that this tendency will continue in the future.

In the table on page 100 the effective wage index-numbers are all computed to the one base, that of the Commonwealth for 1911. The index-numbers, however, are comparable in all respects, and comparisons may therefore be made as to the increase or decrease in the effective wage index-number for any State over any period of years. Thus it will be seen that, comparing 1918 with 1901, there has been an increase in the index-numbers in Victoria, South Australia, Western Australia, and Tasmania, and a decrease in the remaining States. Similarly, comparing 1918 with 1911 the index-numbers shew that there has been an increase in only two of the States, Western Australia and Tasmania; the index-number for South Australia is the same for both years, while the index-numbers for the remaining States shew decreases in 1918 compared with 1911.

9. **Variations in Effective Wages and Standard of Comfort, 1901 to 1918.**—In the preceding paragraph particulars are given as to variations in effective wages in each State, due allowance having been made for variations in the purchasing-power of money, though not for unemployment. Attention has also been drawn to the limitations to which they are subject in abnormal times.

If 48 hours per week be the time for which a given wage is paid, say 60s., then for the purpose of estimating the aggregate average earnings, account must be taken of the proportion of time spent in unemployment. For example, if the working days be 300 per year, and the time unemployed be 6 per cent., the actual proportion of working time is 94 per cent., i.e., 18 days are idle in every 300, or 6 per cent. of the period. Similarly, if of the employable an average of only 94 per cent. are employed, the measure of unemployment is again 6 per cent., and the employment index-number is 940, i.e., 940 in 1000, or 94 per cent.

For years prior to 1913 the data available as to unemployment are so meagre that comparative results allowing for variations both in the purchasing-power of money and in unemployment cannot be accurately computed for the several States. In the subjoined table, however, the percentage of unemployment for the whole Commonwealth at the end of the years specified has been used in order to obtain results shewing the variations in unemployment upon effective wages. Column I. shews the nominal rate of wage index-numbers (see paragraph 5 hereof), and Column II. the relative percentages unemployed (see Section III.). Applying these percentages to the numbers shewn in Column I., and deducting the results from each corresponding index-number, so as to allow for relative loss of time, the figures in Column III. are obtained. These figures are then recomputed with the year 1911 as base, and are shewn in Column IV. In Column V. the purchasing-power-of-money index-numbers are shewn, and in Columns VI. and VII. the effective wage index-numbers are given, firstly, for full work, and secondly, allowing for lost time. These are obtained by dividing the figures in Column I. and IV., respectively, by the corresponding figures in Column V. The resulting index-numbers shew for the Commonwealth for the years specified the variations in *effective* wages or in what may be called the "standard of comfort."*

A comparison between the figures in Columns I. and VI. shews the relation between the nominal rates of wage and the purchasing efficiency of these rates. The figures in Column VII. (see graph on page 105) shew variations in *effective* wages after allowing not only for variations in purchasing-power of money, but also for the relative extent of unemployment.

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* This expression must not be confused with "standard of living." A change in the standard of living necessarily involves a change in regimen (see Labour Report No. 1), that is, a change in the nature or in the relative quantity of commodities purchased, or both. A change in the "standard of comfort" merely implies a variation in effective wages, which variation may, or may not, result in, or be accompanied by, a change in the "standard of living."

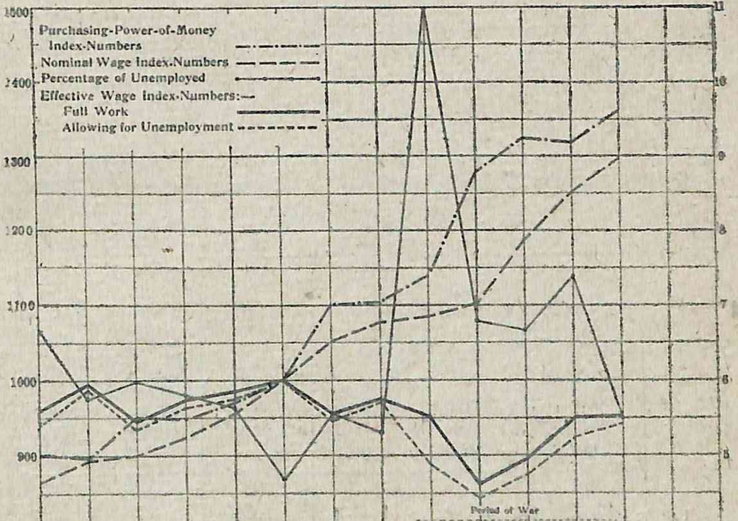
Unemployment and Nominal and Effective Wage Index-numbers, for the Years specified, 1901 to 1918.†

Year.	I. Nominal Wage Index-Numbers.	II. Percentage Unemployed.	Rate of Wage Index-Numbers, allowing for Lost Time. III. Actual.	IV. Recomputed. (1911 = 1,000).	V. Purchasing Power of Money Index-Numbers.	Effective Wage Index-Numbers. VI. Full Work	VII. Allowing for Unemployment.
1901	848	6.6	793	832	880	964	945
1906	866	6.7	808	848	902	960	940
1907	893	5.7	842	884	897	996	986
1908	900	6.0	846	888	951	946	934
1909	923	5.8	870	913	948	974	963
1910	955	5.6	901	945	970	985	974
1911	**1,000**	4.7	953	**1,000**	**1,000**	**1,000**	**1,000**
1912	1,051	5.5	993	1,042	1,101	955	946
1913	1,076	5.3	1,021	1,071	1,104	975	970
1914	1,085	11.0	966	1,014	1,140	952	889
1915	1,102	6.8	1,027	1,078	1,278	862	844
1916	1,184	6.7	1,105	1,159	1,324	894	875
1917	1,252	7.4	1,159	1,216	1,318	950	923
1918	1,296	5.5	1,225	1,285	1,362	952	943

† As to the effect in abnormal periods, see Section IV., par. 3, of Labour Report No. 6.

The above figures for the years 1906 to 1917, inclusive, are shewn in the graph on page 105. It may be seen from the graph that the nominal wage index-number has steadily increased, and that the increase has been at a somewhat greater rate (except in the years 1908, 1912, 1914, 1915, and 1918) than the increase in the purchasing-power-of-money index-numbers. Owing to the decreases in these years the effective wage index-numbers (both "Full Work" and "Allowing for Unemployment") do not, on the whole, shew any general increase, but fluctuate between a range which reached its maximum in 1911, and its minimum in 1915. In 1907 there was a large decrease in unemployment, which is reflected in the "peak" in the effective wage index-number for that year. The rise in the purchasing-power-of-money index-number in 1908, which was a drought year, caused a considerable fall in effective wages. From that year, however, until the year 1911, the effective wage index-number steadily increased from 934 to 1000, but this increase was almost counterbalanced by the fall in 1912, which was due to the large increase in the purchasing-power-of-money index-number and the smaller increase in unemployment. In 1913 the purchasing-power-of-money index-number was practically the same as that for 1912, while nominal wages increased and unemployment decreased, with the result that the effective wage index-numbers, both for full work and allowing for unemployment, shew an increase. The effective wage index-numbers for 1914 both shew a decrease on the preceding year. This decrease is particularly marked in the case of the index-numbers in which allowance is made for unemployment. In 1915 there was a decrease in unemployment when compared with the preceding year, but on the other hand the cost of food and groceries shewed a very substantial increase, so that while nominal wages increased slightly, effective wages index-numbers, both for full work and allowing for unemployment, shew a large decrease, and are, in fact, lower than for any other year covered by the investigation. In 1916, 1917, and again in 1918 the effective wage index-numbers both for full work and allowing for unemployment shew an increase, due to the fact that the increase in nominal wages index-number has been greater than the increase in the index-numbers shewing cost of food, groceries, and house rent.

Unemployment, Purchasing-Power of Money, and Nominal and Effective Wage Index-Numbers, 1906 to 1918.



EXPLANATORY NOTE.—Each space in the horizontal scale represents one year. The vertical spaces on the left represent the scale for the index-numbers for purchasing-power of money and wages, while the scale on the right from 4 to 11, represents the percentage of unemployment.

10. **Relative Productive Activity and Effective Wages, 1871 to 1916.**—The preceding tables refer to the matter of variations in effective wages, having regard to fluctuations in purchasing-power of money and extent of unemployment. Another important matter in any investigation into increases in rates of wages is the question of increase in *relative output* or production per head of population, measured quantitatively. If measured

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by mere value, increase of price would have the effect of making an equal production with that of a time when prices were lower, and shew an increase which would, of course, be misleading. For example, the annual figures shewing the estimated value of production from the Commonwealth industries do not directly shew whether there has been any increase in the *quantity* produced, since the price-level at the time is itself a factor in the determination of the values. Before, therefore, any estimate of the relative increase or decrease in production (that is, in the relative quantity of output) can be formed, the variations due to the price element must be eliminated. This is done in the following table, in which Column I. shews the estimated *value* of production (a) in the aggregate and (b) per head of mean population. In Column II. the estimated value of production per head of population is shewn in the form of index-numbers with the year 1911 as base; that is to say, the production per head in 1911 is made equal to 1000, and the values for the other years computed accordingly. In Column III. Melbourne wholesale and retail price index-numbers are given; it is assumed that these index-numbers reflect, with substantial accuracy, variations in wholesale and retail prices in the Commonwealth as a whole. The figures in Column IV. are obtained by dividing the figures for each year in Column II. by the corresponding figures in Column III. They shew the estimated relative productive activity per head of population, taking the year 1911 as the basic or standard year, the fluctuations due to variations in prices having been eliminated.

Estimated Relative Productive Activity in Commonwealth for the Years specified, 1871 to 1916.

Year.	I. Estimated Value of Production.		II.	III.		IV. Estimated Relative Productive Activity Index-Numbers (1911 = 1,000).	
	(a) Total. (000 omitted.)	(b) Per Head of Population.	Estimated Value of Production per head Index-Number (1911 = 1,000.)	(a) Wholesale Price-Index-Number (1911 = 1,000).	(b) Retail Price-Index-Number Six Capital Cities (1911 = 1,000).		
	£	£				*	†
1871 ..	46,700	27.89	661	1,229	..	536	..
1881 ..	71,116	31.34	746	1,121	..	664	..
1891 ..	96,087	30.06	715	945	..	757	..
1901 ..	114,585	30.23	719	974	880	738	817
1906 ..	147,043	36.21	862	948	906	909	951
1907 ..	167,446	40.61	966	1,021	897	946	1,077
1908 ..	164,957	39.33	936	1,115	951	839	984
1909 ..	174,503	40.82	971	993	948	978	1,024
1910 ..	187,734	43.92	1,045	1,000	970	1,042	1,077
1911 ..	188,745	42.03	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
1912 ..	206,732	44.51	1,059	1,170	1,101	905	962
1913 ..	281,101	45.41	1,080	1,088	1,104	993	978
1914 ..	209,485	42 59	1,013	1,149	1,140	882	889
1915 ..	251,589	50.82	1,209	1,604	1,278	754	946
1916 ..	270,427	55.11	1,311	1,504	1,324	872	990

* Index-numbers computed by application of Wholesale Price Index-numbers. † Index-numbers computed by application of Retail Price Index-numbers.

These figures shew that the estimated relative productivity per head of population increased by no less than 86 per cent. from 1871 to 1911, and by nearly 33 per cent. from 1891 to 1911. The increase was not uniform during the whole of the years specified, slight decreases occurring in 1901 and 1911, and a heavy fall in 1908, which was a year of severe drought. The figures further shew that there has been a considerable falling-off in productive activity since 1913.

The above table furnishes the necessary indication of variations in productive activity, based on prices corresponding to the time at which the valuations were made, and obviously the prices used should be "wholesale prices." There is, however, some doubt as to how far the weights, or mass units, *i.e.*, relative quantities of the commodities used for the purpose of weighting prices in order to compute price-indexes which refer to the consumption of those commodities in Australia can be legitimately used. The relative quantities produced for export and home consumption combined, that is, for the whole production, probably varies appreciably from the relative quantities (mass units, or weights) used for home consumption, and the price-indexes for wholesale and retail prices may not be the same as price-indexes of the value of production, if such could be computed according to the relative quantities of commodities produced.*

Index-numbers of productive activity computed by the application of retail price index-numbers are included in the table for comparative purposes, though obviously retail price variations cannot be applied to correct apparent variations in productivity with the same degree of accuracy as wholesale price index-numbers.

SECTION XI.—OPERATIONS UNDER ARBITRATION AND WAGES BOARD ACTS.

1. **General.**—Particulars regarding operations under the Commonwealth Arbitration Acts and the various State Acts for the regulation of wages and hours and conditions of labour, shewing the number of boards authorised and constituted, also those which had and which had not made any award or determination in each State; the number and territorial scope of awards or determinations, and the number of industrial agreements, in force, were first compiled to the 31st December, 1913.†

These particulars have from time to time been revised, and reviews to the end of approximately quarterly periods have been published in the periodical Labour Bulletins and Quarterly Summaries to the 31st December, 1918. Information has also been compiled and included in the later issues of the Labour Bulletin and Quarterly Summary respecting the estimated number of workpeople affected by awards or determinations and industrial agreements in each State. The following tabular statement gives particulars of the operations in each State and under the Commonwealth Statutes during each quarter of the years 1914 to 1918.

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* Further, it should be observed that the variations in wholesale prices may vary considerably even during the course of a year. (See Labour Report No 6, page 52.)

† Information as to the main provisions of the various Acts in force may be found in the Official Year Book No. 11, pages 1004 and 1005.

Awards and Determinations Made and Industrial Agreements Filed in each Quarter of the Years 1914 to 1918.

State.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Whole Year.	
	Awards or Determinations made.	Agreements Filed.	Awards or Determinations made.	Agreements Filed.	Awards or Determinations made.	Agreements Filed.	Awards or Determinations made.	Agreements Filed.	Awards or Determinations made.	Agreements Filed.
					1914.					
N. S. Wales	15	8	32	28	38	10	12	4	97	50
Victoria	15	..	14	..	15	..	3	..	47	..
Queensland	9	..	11	3	16	1	5	..	41	4
S. Australia	1	3	1	..	..	..	..	6	2	9
W. Australia	2	10	2	5	3	7	2	3	9	25
Tasmania	..	..	2	..	4	..	..	..	6	..
Commonwealth	..	5	4	10	2	6	..	21*	6	42*
TOTAL	42	26	66	46	78	24	22	34	208	130
					1915.					
N.S. Wales..	28	9	40	6	38	6	39	4	145	25
Victoria	3	..	2	..	17	..	31	..	53	..
Queensland	1	1	7	..	13	2	14	7	35	10
S. Australia	..	..	..	1	2	..	6	4	8	5
W. Australia	1	7	4	6	2	5	11	3	18	21
Tasmania	1	..	..	..	7	..	..	..	8	..
Commonwealth	1	..	2	113†	2	18	2	51‡	7	182
TOTAL	35	17	55	126	81	31	103	69	274	243
					1916.					
N.S. Wales	28	7	53	14	53	14	66	14	200	49
Victoria	34	..	21	..	18	..	13	..	86	..
Queensland	11	2	26	27	18	8	14	5	69	42
S. Australia	5	3	7	2	10	..	7	1	29	6
W. Australia	3	2	6	3	1	3	4	5	14	13
Tasmania	3	..	7	..	3	..	1	..	14	..
Commonwealth	..	2	5	3	4	5§	5	11	14	21
TOTAL	84	16	125	49	107	30	110	36	426	131
					1917.					
N.S. Wales	35	14	23	11	31	7	19	11	108	43
Victoria	18	..	19	..	22	..	6	..	65	..
Queensland..	15	3	6	12	21	16	21	11	63	42
S. Australia	13	..	11	..	11	1	4	2	39	3
W. Australia	..	1	2	11	..	8	2	8	4	28
Tasmania	1	..	..	..	3	..	3	..	7	..
Commonwealth	1	‖65	10	5	12	9	10	56	33	135
TOTAL	83	83	71	39	100	41	65	88	319	251
					1918.					
N.S. Wales	18	8	25	5	21	14	33	12	97	39
Victoria	13	..	12	..	20	..	31	..	76	..
Queensland..	9	12	35	24	26	19	55	6	125	61
S. Australia	3	2	2	5	7	2	17	1	29	10
W. Australia	4	7	1	3	3	9	1	7	9	26
Tasmania	2	..	3	..	6	..	4	..	15	..
Commonwealth	3	5	5	6	4	151**	10	51††	22	213
Total	52	34	83	43	87	195	151	77	373	349

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* Of this number 18 agreements were made between the Federated Engine Drivers' and Firemen's Association and various employers, in terms of an award of the Commonwealth Court.

† Of this number, 108 agreements were made between the Federated Engine Drivers' and Firemen's Association and various employers, in terms of an award of the Commonwealth Court.

‡ Including 49 agreements made between the Federated Engine Drivers' and Firemen's Association and various employers, in terms of an award of the Commonwealth Court.

§ Including 1 agreement varied in respect to wages only.

‖ Including 55 separate agreements made between the Australian Saddlery and Leather Workers Trades Employees' Federation and various employers.

** Including 140 separate agreements made between the Federated Engine Drivers' and Firemen's Association and various employers.

†† Including 37 separate agreements made between the Federated Coopers' Association and various employers.

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Owing to the prevailing drought conditions and the advent of war during the year 1914, varying restrictive measures were introduced either for the suspension or curtailment of the operations of industrial tribunals in each of the States.* These restrictions were most effective in New South Wales, Victoria, and Queensland during the fourth quarter of 1914 and the first quarter of 1915.

During the second quarter of 1915 the restrictions referred to were somewhat relaxed in New South Wales and Queensland, and early in the third quarter operations gradually assumed normal conditions in all the States. During the third and fourth quarters of 1915 greater activity was evidenced in each State, and the number of awards and determinations made by industrial tribunals exceeded those made during any similar period of the two years.

Industrial tribunals were very active during the year 1916. The number of awards and determinations made was greatly in excess of the number made during either of the two preceding years. This increased activity was mainly due to applications for a review of existing awards and determinations, owing to the increase in the cost of living. In all States, with the exception of Western Australia, the numbers of awards, etc., made during 1916 exceeded those made during 1915.

During the year 1917 industrial tribunals in the various States continued their activity. The number of awards and determinations made during the year was lower than the number made during the previous twelve months, but the number of agreements shewed a large increase on the figures for the previous year.

During 1918 the activity of industrial tribunals continued. As compared with 1917 the number of awards and determinations made, and agreements filed, shewed increases. The increase is most noticeable in Queensland, the number of awards (125) made by the Court of Industrial Arbitration during the year being greatly in excess of the number made in that State during any previous year. The number of agreements (213) filed under the provisions of the Commonwealth Conciliation and Arbitration Act during the year 1918 is also in excess of the number filed under this Act during any previous twelve months.

2. **Boards Authorised and Awards, Determinations, and Agreements in Force.**—In the following table particulars are given for all States, excepting Western Australia, of the number of boards authorised and constituted, and, including operations under the Commonwealth and the Western Australian Arbitration Acts, of the number of awards, determinations, and industrial agreements in force in all States at the 31st December, 1913, and at approximately quarterly intervals during the succeeding five years.

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* A brief account of the effect of these restrictions was given in "Labour Bulletin" No. 9 (pp. 62-4)

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Particulars of Boards and of Awards, Determinations and Industrial Agreements in Force at 31st December, 1913, and at Approximately Quarterly Periods to 31st December, 1918.*

Dates.	Boards Authorised.	Boards Constituted.	Boards which had made Awards or Determinations	Awards or Determinations in Force†	Industrial Agreements in Force.
31st Dec., 1913	505	501	387‖	575§	401
30th April, 1914	525	509	422‖	575	415
30th June, 1914	537	523	457‖	584	429
30th Sept., 1914	549	539	474	599	409
31st Dec., 1914	553	544	478	576‡	369
31st March, 1915	560	551	486	589‡	371
30th June, 1915	568	557	495	638	481
30th Sept., 1915	582	570	495	644	498
31st Dec., 1915	573¶	554¶	498	663	546
31st March, 1916	580	558	495	651	553
30th June, 1916	589	571	512	678	581
30th Sept., 1916	591	573	519	683	596
31st Dec., 1916	594	572	525	706	609
31st March, 1917	475**	470**	529	722	666
30th June, 1917	476	471	530	714	663
30th Sept., 1917	478	473	441††	734	666
31st Dec., 1917	478	473	442	744	732
31st March, 1918	478	473	444	767	722
30th June, 1918	478	473	445	799	722
30th Sept., 1918	480	475	445	843	812
31st Dec., 1918	267‡‡	260‡‡	445	866	833

* Details for each quarter have already been published in Labour Bulletins, in Labour Reports Nos. 5 to 8, and in Quarterly Summaries.

† Including awards made by Arbitration Courts.

‡ Owing to certain restrictions being imposed on the operations of Industrial Boards in each State, a number of awards which expired in New South Wales during these periods were not immediately reviewed.

§ Excluding awards or determinations which expired in New South Wales (under the Act of 1908) on 31st December, 1913.

‖ Owing to a number of Awards made under the N.S.W. Industrial Disputes Act (1908) being still in force, the Boards constituted for such industries under the Industrial Arbitration Act (1912) had not made any awards.

¶ See remarks with respect to re-authorisation of Boards in New South Wales, Labour Bulletin No. 12, p. 47.

** Reduction in the number of Boards authorised, constituted, and in existence is due to the dissolution of all Boards appointed under the Queensland Industrial Peace Act 1912.

†† Exclusive of Queensland Boards appointed under the Industrial Peace Act 1912. The work of these Boards is now undertaken by the Court of Arbitration constituted under the Industrial Arbitration Act of 1916.

‡‡ On the 13th December, 1918, an order was made by the New South Wales Court of Industrial Arbitration recommending the reconstitution of 220 Industrial Boards which had expired by effluxion of time, and on the 19th February, 1919, such Boards were constituted.

It will be observed from the particulars set out in the above table that considerable expansion of the principle of the fixation of a legal minimum rate of wage and of working conditions took place during the five years ending 31st December, 1918. Including the operations under the Commonwealth Arbitration Acts* and of the Western Australian

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* The Commonwealth Conciliation and Arbitration Act 1904-18, and the Commonwealth (Public Service) Arbitration Act 1911.

Industrial Arbitration Court, 291 additional awards or determinations were in force at the end of 1918. The number of industrial agreements* made and in force under the various Acts increased during the five years under review by 432.

The total number of awards of Industrial and Arbitration Courts and determinations of Wages Boards in force throughout the Commonwealth at the end of December, 1918, was 866, while the number of industrial agreements filed under the provisions of the various State and Commonwealth Acts at the same date was 833. In the following paragraphs information is furnished in regard to the terms for which awards, determinations, and agreements are made. It will be seen that there is a fundamental difference between the various systems in the several States, so far as the period for which awards, etc., remain in force.

In New South Wales awards of the Court of Industrial Arbitration or of industrial boards come into operation fourteen days after publication in the "Government Gazette," and are binding on all persons engaged in the industries or callings, and within the locality and for the period not exceeding three years specified therein, and after such period until varied or rescinded by the court or board. Industrial agreements filed under the provisions of the Arbitration Act in this State may be made for a term specified therein, not exceeding five years. These agreements must be filed at the office of the Registrar, and are binding on the parties, and on all persons for the time being members of the union, but may be rescinded or varied in writing by the parties. Any such industrial agreement may be enforced under the Act.

In Victoria, South Australia, and Tasmania determinations of wages boards are not made for any specified period, and remain in operation until superseded by another determination. The registration of industrial agreements is not provided for under the Acts in force in Victoria or Tasmania, but the Act in South Australia provides for the filing of such agreements, which may be made for a period specified therein not exceeding three years. These agreements continue in force after the expiration of the term specified therein, until the expiration of one month after some party thereto has given written notice to the Registrar and to the other parties thereto of his desire to determine same.

In South Australia, awards under the Industrial Arbitration Act 1912-6 continue in force, subject to any variation ordered by the Court, for a period to be specified in the award, not exceeding three years, and thenceforward until a new award is made, but are binding only on those parties to the industrial matter or industrial dispute who are summoned to appear before the Court as parties, except in those cases in which the award is declared by the Court to be a common rule.

The determination of a wages board in this State applies to all employers and employees who are engaged in the particular process, trade, business, or occupation, etc., within the metropolitan area or within any other locality specified by the Governor in an order published in the "Government Gazette." Determinations come into force on the fourteenth day after publication in the "Government Gazette," or on a later date (if any) fixed by the board, of which date notice is given in

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* The registration of industrial agreements is not provided for under the Acts in force in Victoria and Tasmania, but such agreements may be registered and filed under the provisions of the Commonwealth Conciliation and Arbitration Act to operate in any or in all States.

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the "Gazette." Determinations remain in force until suspended or altered pursuant to an order of the Industrial Court or until a new determination has been made by the board.

In Queensland awards of the Industrial Court have the force of law within the locality specified in the award, and remain in force for a specified period not exceeding twelve months, unless sooner rescinded or varied, and continue in force until a new award has been made. Provision is made in the Act for the constitution of industrial boards, and such boards may, when empowered by the Court, make an award which shall have effect as an award of the Court. Industrial agreements may be filed in this State under the provisions of the Act. Such agreements shall be for a term specified therein, not exceeding three years, and notwithstanding the expiry of the term shall, subject to any award, continue in force in respect of all parties thereto, except those who retire therefrom. An agreement shall be limited in its effect to the particular locality therein specified. The Court may declare that any industrial agreement shall have the effect of an award and be a common rule of any calling or callings to which it relates, within the locality specified in the agreement. Notice of the Court's intention to extend the operation of such agreement shall be given to all parties likely, in its opinion, to be affected, and the Court shall hear any parties desiring to be heard in opposition.

In Western Australia awards of the Industrial Court may be made for (a) any specified period not exceeding three years from the date of the award; or (b) for one year, and thenceforward from year to year. Industrial agreements may be made for a term to be specified therein, not exceeding three years. Notwithstanding, however, the expiry of the term for which an award or an industrial agreement has been made it remains in force in respect of all parties thereto, until the expiration of thirty days after notice of intention to retire therefrom has been filed in the office of the Clerk of the Court. The Industrial Court may, after giving notice of its intention to extend the operation of an industrial agreement to all parties likely to be affected, declare that any industrial agreement shall have the effect of an award, and be a common rule in the industry within the locality specified in such agreement.

Awards made under the Commonwealth (Public Service) Arbitration Act 1911 are not usually limited in operation to any period . Awards under the Commonwealth Conciliation and Arbitration Act, 1904-8, may be made for any period to be specified in the award, not exceeding five years from the date of the award, and, after the expiration of the period so specified, the award shall, unless the Court otherwise orders, continue in force until a new award has been made. An industrial agreement made subsequent to a compulsory conference convened under Section 24 of the Commonwealth Act has the same effect as an award, and thus remains in force until superseded by an award of the Court or by a further agreement. An industrial agreement under Part VI. of the Act may be made for any period not exceeding five years (Sec. 75), but in default of any express agreement to the contrary therein contained shall, unless rescinded, and subject to any variation, continue in force after the expiration of the term specified therein, until the expiration of one month after some party thereto has given written notice to the Registrar and to the other parties of his desire to determine it. (Sec. 81.)

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Boards Authorised and Constituted, Awards, Determinations and Agreements in Force at 31st December, in each of the Years 1913 to 1918.

Particulars.	At 31st Dec.	C'wlth.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
Boards Authorised, etc.[*]									
Boards authorised ..	1913	..	216†	135	75	56	..	23	505
	1914	..	230†	139	101	56	..	27	553
	1915	..	226	147	112	56	..	32	573
	1916	..	234	147	122	57	..	34	594
	1917	..	237	149	2§	57	..	33	478
	1918	..	17¶	153	2§	58	..	37	267¶
Boards constituted ..	1913	..	223†	132‡	74	51	..	21	501
	1914	..	238†	135‡	94	51	..	26	544
	1915	..	226	142‡	104	51	..	31	554
	1916	..	234	143‡	111	51	..	33	572
	1917	..	237	147‡	2§	55	..	32	473§
	1918	..	17¶	149	2§	56	..	36	260¶
Boards which have made Awards or Determinations	1913	..	123	123	74	47	..	19	386
	1914	..	186	130	92	47	..	23	478
	1915	..	196	133	96	47	..	26	498
	1916	..	211	137	97	49	..	31	525
	1917	..	219	140	1§	50	..	32	442§
	1918	..	219	142	2§	50	..	32	445
Awards and Determinations—									
Awards and Determinations in force	1913	17	265‖	127	73	54	18	21	575
	1914	18	242	133	89	55	46	26	609
	1915	20	261	137	103	56	57	29	663
	1916	30	258	141	120	62	64	31	706
	1917	64	251	145	125	71	56	32	744
	1918	85	284	147	184	80	54	32	866
State Awards and Determinations—									
Applying to Whole State	1913	..	32	8	3	..	..	15	58
	1914	..	17	10	4	..	..	19	50
	1915	..	26	12	7	..	..	20	65
	1916	..	8	12	8	..	..	21	49
	1917	..	17	16	14	..	..	25	72
	1918	..	24	16	23	..	5	26	94
Applying to Metropolitan area	1913	..	58	..	28	53	13	1	153
	1914	..	63	..	30	54	25	1	173
	1915	..	75	..	30	54	32	1	192
	1916	..	74	1	33	58	37	2	205
	1917	..	80	1	31	62	30	1	205
	1918	..	86	1	46	66	32	..	231
Applying to Metropolitan and Country areas	1913	..	49	105	1	..	1	5	161
	1914	..	41	109	12	..	5	6	173
	1915	..	38	111	17	..	7	8	181
	1916	..	49	114	20	..	7	8	198
	1917	..	89	118	26	2	5	6	246
	1918	..	108	120	39	4	3	6	280
Applying to Country areas	1913	..	126	14	41	1	4	..	186
	1914	..	121	14	43	1	16	..	195
	1915	..	122	14	49	2	18	..	205
	1916	..	127	14	59	4	20	..	224
	1917	..	65	10	54	7	21	..	157
	1918	..	66	10	76	10	14	..	176
Commonwealth Awards									
Awards in force in each State	1913	..	13	17	15	16	9	13	..
	1914	..	16	17	15	15	8	12	..
	1915	..	17	19	15	16	10	14	..
	1916	..	25	25	18	22	13	18	..
	1917	..	41	41	30	37	25	34	..
	1918	..	63	62	48	57	41	51	..
Industrial Agreements									
In force	1913	228	75	..	5	11	82	..	401
	1914	179	78	..	10	17	85	..	369
	1915	361	73	..	15	16	83	..	548
	1916	374	85	..	49	18	83	..	609
	1917	465	82	..	75	18	92	..	732
	1918	569	79	..	71	26	88	..	833
C'wealth Agreements in force in each State	1913	..	132	129	68	62	57	61	..
	1914	..	96	76	28	34	29	30	..
	1915	..	119	220	29	36	30	33	..
	1916	..	125	236	32	40	37	39	..
	1917	..	137	281	43	50	36	37	..
	1918	..	145	359	74	93	54	54	..
Number of Persons working under State Awards and Determinations (estimated)	1918	..	260,000	150,000	90,000	25,000	32,000	12,000	569,000

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[*] The figures for New South Wales are exclusive of demarcation boards.

[†] Including boards which were subsequently dissolved, owing to alteration in the sectional arrangement of industries and callings.

[‡] Including one board subsequently superseded by three boards.

[§] In pursuance of the provisions of the Industrial Arbitration Act of 1916, all Industrial Boards appointed under the Industrial Peace Act of 1912 were dissolved on the 12th January, 1917, with the exception of those Boards which had matters pending or partly heard. At the 31st December, 1917, these Boards had also been dissolved. The work of the Boards appointed under the old Act is being undertaken by a Court of Arbitration constituted under the new Act.

[‖] Omitting a number of awards which expired on the 31st December, 1913.

[¶] On the 13th December, 1918, an order was made by the N. S. Wales Court reccommending the reconstitution of 220 Industrial Boards which had expired by effluxion of time, and on the 19th February, 1919, such Boards were constituted

From the particulars set out in the above table, ready comparison can be made with respect to the progress in each of the States during the years 1913 to 1918, as to the number of Industrial and Wages Boards operating, and the number of awards, determinations, and industrial agreements in force at the end of each annual period.

Information as to the main provisions of the various Industrial Acts in force throughout the Commonwealth was given in Labour Bulletin No. 1. In later issues brief reviews have also been furnished respecting new legislation of an industrial character, as well as information respecting noteworthy pronouncements or procedure by industrial tribunals and any special application or conditions of the terms of awards or determinations. In this report, brief particulars regarding new industrial legislation and special pronouncements by Industrial Courts during the year 1918 are given.

(1.) *New South Wales.*—During the year 1918 six awards and one variation were made by Industrial Boards, while 91 awards and 103 variations were made by the Court of Industrial Arbitration. During 1917 and 1918 the work of the Court increased considerably, as in accordance with the provisions of Section 14 of the Industrial Arbitration Act 1912, as amended, the Court has been exercising the functions of Boards. This section provides that upon any reference or application being made to a Board, under the provisions of Section 31, the jurisdiction and functions of such Board thereupon may be exercised by the Court, and shall not be exercised by the Board until a direction to that effect shall be given by the Court.

At the end of the year 1918 only 17 Boards remained in force, 220 Boards having expired by effluxion of time. During February, 1919, these 17 Boards were dissolved, and all the old Industrial Boards were reconstituted on the 19th February, 1919, together with several newly-constituted Boards. These new Boards relate to the following industries or callings:—Artificial flower-making, wheat stackers, and certain employees in wire netting works. The grouping of the constituted Boards has been slightly rearranged and certain anomalies remedied. As the functions of the Boards are being discharged by the Court, the reconstitutions are of a more or less formal character.

New legislation of an industrial character enacted during the year included the Industrial Arbitration (Amendment) Act 1918, the provisions of which were briefly summarised in Labour Report No. 8 for 1917; the Trades Unions Re-registration Act 1918 providing for the re-registration of certain industrial unions removed from the register, and the Industrial Arbitration Further Amendment Act 1918, which provides, in addition to other matters, for the appointment of additional commissioners to the Board of Trade to represent rural industries.

During June the constitution of the Board of Trade was completed by the appointment of six members, who were appointed for a period of five years from the 1st of June, 1918. Mr. Justice Heydon, Senior Judge of the Court of Industrial Arbitration, was selected to act as President of the Board. Several matters have been investigated during the year, including the living wage for male and female workers in the metropolitan area, and the prevalence of miners' phthisis and pneumoconiosis in certain industries. The living wage for adult male and female workers in the metropolitan area was declared to be 60s. and 30s.

per week respectively. Although application had to be made to the Industrial Court to vary awards in accordance with the male living wage declaration, the female living wage operated as from the 20th December, 1918, the date on which the regulations under Section 81 (i.) of the Industrial Arbitration Act 1912 (as amended) were gazetted. These regulations defined the area covered by the determination of the Board of Trade, and also the living wage (7½d. per hour, 5s. per day, or £1 10s. per week) to be paid to adult female employees.

Conciliation committees were appointed under the Industrial Arbitration Act for steelworkers, Newcastle, and for wharf labourers, Port Jackson.

It was held by the Court of Industrial Arbitration, on an appeal from a decision of a magistrate, that apprentices must be paid the rates prescribed in the latest award governing the industry in which they are engaged. Previously there was much doubt entertained in connection with this question.

The report of the Royal Commission of Inquiry on the Job and Time Cards System in the Tramway and Railway Workshops of New South Wales was issued during August. This Commission was appointed to enquire into the effects and the workings of the system known as the Job and Time Cards System, which was introduced into the Tramway and Railways Workshops during the previous year. The employees at the workshops bitterly resented the introduction of the "time card" system, and as a protest ceased work. The dispute rapidly extended to other industries throughout the State and Commonwealth, and caused most serious losses in working days and wages. The terms of the settlement of the dispute provided for the appointment of a Royal Commision to enquire into and determine whether the operation of the "time card" system was just or otherwise.

The report of the Commission is too lengthy to be given in this section. It may be mentioned, however, that it was published in the New South Wales Industrial Gazette, Vol. XIV., No. 2, issued in August, 1918.

The report, which contains much matter of interest, is divided into four sections, as shewn hereunder:—

1. The meaning of the "Card System."
2. The effect of the introduction of the card system on the efficiency and economy of working.
3. The effect of the introduction of the card system on the well-being of the employees.
4. The question whether the effect of the introduction of the system has been to produce discontent, and, if so, whether there are any reasonable grounds for such discontent.

(*ii.*) *Victoria.*—In this State during the year 1918 four new Wages Boards were authorised for the following industries, not previously under any Board:—(a) Cement Making; (b) Manufacturing Chemists; (c) Manufacture of Cement Articles; and (d) Musical Instrument Making. The Engineers' and the Brassworkers' Boards were superseded by the Engineers' and Brassworkers' (skilled), and Engineers' and Brassworkers' (unskilled) Boards. The powers of the Rubber Trade Board and the Hotel

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Employees' Board were extended. The alteration in the case of the Hotel Employees' Board was the outcome of representations made by a deputation which waited on the Minister of Labour, and requested, amongst other claims, the appointment of a Wages Board for domestic servants, and also that the Hotel Employees' Board, which applied only to boarding houses with accommodation for twenty or more boarders, should apply to all boarding houses. The powers of the Board were varied to apply to all boarding houses with accommodation for seven or more boarders.

The Dispensaries and the Chemists' Shops' Boards issued their first determinations during the year.

The Court of Industrial Appeals dealt with appeals against the determinations of the Country Printers, Quarry, and Commercial Clerks' Wages Boards during the year. The number of determinations made by Wages Boards during 1918 was 76, as compared with 65 during the previous twelve months.

(*iii.*) *Queensland.*—During the year the Court of Industrial Arbitration in this State was very active. Numerous claims by employees for increased rates of wage, and betterment of their working conditions, were heard. Altogether 125 awards (excluding variations) were made. This number is greatly in excess of the number made during any previous year. At the end of the period under review 156 of the 184 awards in force had been made by the Industrial Court, the remainder being awards made by Boards, now dissolved, appointed under the repealed Industrial Peace Act. These awards of the dissolved Boards are rapidly being revised and replaced by awards of the Court. Large numbers of employees, not previously subject to any award or industrial agreement, were brought under award of the Court or under industrial agreement during the year. Prior to 1918 theatrical employees and employees on sheep and cattle stations were working under awards of the Commonwealth Conciliation and Arbitration Court, but during the period under review awards of the State Court were made with respect to these employees.

During May the first application under Section 8 (viii.) of "The Industrial Arbitration Act of 1916" was made to the Court by the Queensland Meat Traders' Association and the Queensland branch of the Australasian Meat Industry Employees' Union, to fix the opening and closing times of retail butchers' shops. The object of the applicatin was to compel the proprietors of "one-man" shops, kept and managed solely by the proprietor to observe the same hours as were observed in shops where workpeople are employed, and which are subject to the award of the Court for retail shops. The Court made an order accordingly.

During April the Court heard an appeal from the determination of the Gas Referee, in which he fixed the price of gas chargeable by the Charters Towers Gas, Coke, Coal, and Light Company. A slight increase in the price of gas was the result of the appeal.

New legislation for the better protection of the workers enacted during the year comprised the following:—"The Workers Compensation Amendment Act of 1918," "The Wages Act of 1918," and "The State Enterprises Act of 1918."

In a test case taken to decide the point, a decision was given by the Court that persons working under awards made under the "Industrial Peace Act" are entitled to the benefits of the holiday overtime payments prescribed by "The Industrial Arbitration Act of 1916."

An interesting clause in an agreement between the Australian Workers' Union and the Mulgrave Central Sugar Mill Company Limited provides that the company shall use its influence with its outside suppliers of sugarcane to replace coloured gangs of canecutters, whom they were proposing to employ, by gangs of white cutters.

(*iv.*) *South Australia.*—The number of awards made by the Industrial Court and of determinations of Wages Boards during the year was 10 and 19 respectively, while the number of industrial agreements filed during the same period was 10.

Industries and occupations covered by awards for the first time were:—Sail and tent makers, hotel employees, reservoir and railway construction workers, municipal employees, musicians, and rope, nail, and barb wire workers.

In December a new Board was authorised for the process, trade, etc., of persons engaged in the preparation and manufacture of fibrous plaster, etc.

(*v.*) *West Australia.*—In this State the number of awards made by the Court of Arbitration and of industrial agreements filed during the year 1918, numbered 9 and 26 respectively. Retirements from awards and agreements during the same period numbered five. At the end of the year the number of awards in force was 54, while at the same date 88 industrial agreements filed under the State Arbitration Act were in operation.

(*vi.*) *Tasmania.*—Authorisation was made during the year for the following new Wages Boards:—(a) Drapers; (b) Furniture Dealers; (c) Motor Drivers; and (d) Books, Crockery, and Fancy Goods. The constitution of the Mechanical Engineers' Board was amended so as to bring certain blacksmiths under its jurisdiction.

An important judgment, of particular interest to employers and apprentices, was delivered in this State during May. A conviction had been recorded against an employer for paying an apprentice a lower rate of pay than that fixed by a Wages Board. The rate of pay mentioned in the indenture and being paid was that prescribed by a Wages Board determination in force at the time the youth was apprenticed, but after some considerable period of service had been performed, the Wages Board increased the rates of wage for apprentices. This increased rate was not paid to the apprentice, and the Chief Inspector of Factories proceeded against the employer. It was held by the Court that the decision of the magistrate was bad, and that in paying the rate of wage prescribed by the original determination the employer was not committing a breach of Section 43 of the Wages Board Act.

(*vii.*) *Commonwealth Arbitration Acts.*—During the twelve months under review the number of awards made by the Commonwealth Court was 22, while industrial agreements filed numbered 213. At the 31st December, 1918, 85 awards and 569 agreements were in force. Awards

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were made under the provisions of the Commonwealth Conciliation and Arbitration Act 1904-1918 for the first time to cover the following occupations:—Storemen engaged in oil, bond, and free stores, certain enginedrivers and theatrical employees, coopers, ship painters, and labourers on Commonwealth Railways. The undermentioned sections of the Commonwealth Public Service were brought under award for the first time under the provisions of the Commonwealth Arbitration (Public Service) Act 1911—professional officers, legal professional officers, typists and stenographers, artisans, enginedrivers on Commonwealth Railways, and officers in the general division, Trade and Customs Department.

The Commonwealth Court, in addition to making 22 new awards, made 41 variations of existing awards. The number of compulsory conferences under Section 16a of the Act held during the year was 23. Three informal conferences were also held.

On the 25th December, 1918, the Commonwealth Conciliation and Arbitration Act 1918 was assented to, amending the Commonwealth Conciliation and Arbitration Act 1904-15. It provides that "nothing in any award or order made under this Act or in any agreement relating to industrial matters shall operate to prevent the employment of returned soldiers and sailors."

Other provisions of this Act relate to the appointment of Deputy-President, imposition and recovery of penalties, application of penalties, enforcement of penalties imposed by the Court, and to the power to make orders to observe awards.

(*viii.*) *The War Precautions Coal Board*, appointed in November 1916 to regulate wages, working conditions, and other matters relating to the coal industry. The operations of this Board were suspended in the latter part of the year 1917 owing to the coal mining employees becoming involved in the dispute which originated at the railway workshops in N.S.W. During the year 1918, the Board issued the following orders:—Order No. 21 issued on the 15th January re selling price of coal, Burrum district, Queensland; Order No. 22 issued on the 15th January re price of gas supplied by the Australian Gas Light Company and the North Shore Gas Company Limited; Order No. 23, issued on the 13th June re selling price of coal, Central district, Queensland; Order No. 24, issued on the 13th June re selling price of coal in the Bundamba and Ipswich and the Darling Downs districts, Queensland; Order No. 25, issued on the 12th August repealing Order No. 23, and providing for the selling price of coal from the Blair Athol, Newcastle, Bluff Co-operative and Bluff Collieries, Queensland; and Order No. 26, issued on the 15th November re selling price of cast-iron pipes or tubes supplied by Messrs. C. Monteath & Sons under certain contracts with the Metropolitan Gas Company and others.

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SECTION XII.—CHANGES IN RATES OF WAGE.

1. **General.**—The collection of information regarding changes in rates of wage throughout the Commonwealth dates from the 1st January, 1913, and the statistical results for the first complete year (1913) were published in Labour Report No. 5. The annual figures for the year 1914, together with complete figures for the year 1915, were published in Labour Report No. 6, while particulars regarding changes in rates of wage during the years 1916 and 1917 are given in detail in Labour Reports No. 7 and No. 8 respectively. Details relating to all changes in rates of wage recorded for each quarter of the years 1913, 1914, 1915, 1916, and the first two quarters of the year 1917 were published in Labour Bulletins Nos. 5 to 18 respectively. The annual figures for the year 1918 are given in the following tables.

(i.) *Definition of a Change in Rate of Wage.*—For the purpose of these statistics a change in rate of wage is defined as a change in the weekly rates of remuneration of a certain class of employees, apart from any change in the nature of the work performed or apart from any revision of rates due to increased length of service or experience. It is obvious that under this definition certain classes of changes are excluded, such, for example, as (*a*) changes in rates of pay due to promotion, progressive increments, or, on the other hand, to reduction in pay or grade to inefficient workers, and (*b*) changes in average earnings in an occupation due to a change in the proportions which higher paid classes of workers bear to lower paid classes. Bonuses to employees have not been taken into account in the tabulations. Each single change recorded relates to a change in the rates of wage effected in a specific industry or calling, and includes any and all changes to workers in that industry, irrespective of the different number of separate occupations or trades affected. Further, it should be observed that in some instances a change may relate to the employees of a single employer or to those of a number of employers, according to the instrument or method operating to bring about the change. In a few instances a number of separate instruments, all of which have not necessarily affected rates of wage, but all of which relate to a specific industry or craft, are grouped and taken as a single change. This course is adopted in order to obviate a multiplicity of changes affecting only a small number of workers in each instance.

(ii.) *Sources of Information.*—Primary information merely as to the fact that a change in rate of wage has occurred is obtained through the following channels :—(*a*) The Commonwealth and State Industrial Registrars and the Chief Inspector of Factories in each State ; (*b*) Reports from Labour Agents and Correspondents ; (*c*) Quarterly reports from Secretaries of Trade Unions ; (*d*) Returns relating to industrial disputes which resulted in changes in rates of wage ; (*e*) Reports in newspapers, labour and trade reviews, and other publications.

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(iii.). *Collection of Particulars concerning Changes.*—On the occurrence of a change in rate of wage, forms* (prescribed under the Census and Statistics Act 1905) are issued to employers' associations (if any) and also to the secretaries of the trade unions, the members of which are affected by the change. In certain cases forms are also issued, if necessary, to individual employers. The particulars which have to be inserted in these forms furnish information regarding the occupations of the workers affected, the number of workers in each occupation, the rates of wage paid before and after the change, the locality affected, and the date on which the change took effect. Information must also be furnished regarding employers and employers' associations concerned, if any, and the method by which the change was effected.

When the forms are returned from the various persons who are required to fill them in, the returns are checked and compared with each other and with copies of awards, determinations, and agreements. In all cases when the information furnished on the forms is incomplete or unsatisfactory, further inquiries are made, and the figures checked by reference to Census results, industrial statistics, factory reports, etc.

(iv.).—*Summary of Particulars Tabulated.*—The particulars thus obtained are summarised under the following headings:—(*a*) Number of workpeople affected; (*b*) the total net amount of increase† in the weekly wage distribution; (*c*) the consequential average increase per week to each of the workpeople affected; (*d*) the method by which the change was brought about; and (*e*) if effected with or without a stoppage of work. As regards the number of persons affected, the particulars summarised refer to the total number of persons ordinarily engaged in the specific industry or calling. As to the total net amount of increase in wages, this is computed for a full week's work for all persons ordinarily engaged in the specific industry or calling, and includes particulars of any decreases effected. In cases of changes in the minimum rates of wage payable under awards or determinations of industrial tribunals, it has ordinarily been assumed (in the absence of any definite information to the contrary) that the whole of the workers in each designated occupation received the minimum rates of wage before and after the change.

It should be clearly understood that *the computations* (amount of increase per week) *do not relate to the increase each week*, but only to the increase in a single week on the assumption that the full number of persons ordinarily engaged in the particular trade or occupation affected by the change is employed during that week. It is obvious, therefore, that the aggregate effect per annum cannot be obtained without making due allowance for unemployment and for occupations in which employment is seasonal or intermittent. It is also obvious that since unemployment and activity in all branches of industry may vary from year to year and in many branches from season to season also, no accurate estimate of the actual effect of the changes in the total amount of wages received or paid *per annum* can be made, until the determining factors have been investigated. These factors are (*a*) the amount of unemployment, and (*b*) the period of employment in seasonal industries.

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* As these forms are issued under the authority of the Census and Statistics Act 1905, it is compulsory upon prescribed persons to furnish the information required.

† After making allowance for any decreases involved.

Further, it may be pointed out that the aggregate of the particulars given in the Labour Bulletins and Quarterly Summaries relating to each of the four quarters of any year, will not necessarily agree with those given in the annual figures published for that particular year. This is due to the inclusion, as far as possible, in the annual figures of particulars of all changes effected within the year. In some instances the advice of a change is not received in time to allow the full particulars relating thereto being collected and included in the quarterly figures.

2. **Numbers and Effect of Changes in each State for 1913, 1914, 1915, 1916, 1917 and 1918.**—The following table gives particulars relating to all changes in rates of wage, recorded for each State, Territory, and the Commonwealth during the years specified. It should be observed that changes brought about by awards and agreements under the Commonwealth Conciliation and Arbitration Act 1904-18 are necessarily included hereunder as changes in each State to which such awards and agreements apply. The total net amount of increase per week, set out, is subject to the qualifications mentioned in the fourth paragraph of the preceding sub-section. The average increase per head per week is computed to the nearest penny.

Changes in Rates of Wage.—Number and Effect of Changes in each State and Territory, 1913 to 1918.

Particulars.		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T	F.C.T.	C'wealth
No. of Changes ..	1913	149	81	41	26	20	12	..	..	329
	1914	165	69	50	18	42	19	..	..	384*
	1915	169	87	60	31	25	24	3	..	401†
	1916	377	168	134	98	42	37	4	4	870‡
	1917	201	106	142	78	55	38	16	..	637§
	1918	**229**	**201**	**236**	**113**	**63**	**46**	**4**	..	**896‖**
No. of Persons Affected	1913	89,618	49,254	16,645	4,574	3,036	3,005	..	..	166,132
	1914	56,469	29,876	20.198	5,624	8,399	4,262	..	..	125,218*
	1915	109,260	39,087	22,864	10,206	2,661	3.147	185	..	197,410†
	1916	242,564	119.878	72,079	40,925	5,848	7.232	258	157	492,487‡
	1917	101,158	68,272	72,843	20,209	12,997	5,288	1.143	..	292,910§
	1918	**146,399**	**110,027**	**74,174**	**16,239**	**9,871**	**3,631**	**624**	..	**361,581‖**
		£	£	£	£	£	£	£	£	£
Total Net Amount of Increase per Week	1913	21,789	9,880	3,702	1,279	428	635	..	..	37,713
	1914	13,558	6,688	5,128	1,941	2,423	804	..	..	30,685*
	1915	29,525	8,078	6,308	3,539	562	778	87	..	51,905†
	1916	56,835	30,566	40,451	9,930	1,440	1,980	88	40	142,923‡
	1917	28,896	15,129	20,083	6,070	3,407	1,987	635	..	81,007§
	1918	**32,194**	**25,514**	**19,699**	**3,885**	**2,133**	**1,323**	**273**	..	**85,260‖**
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Average Increase per Head per Week	1913	4 10	4 0	4 5	5 7	2 10	4 3	..	..	4 6
	1914	4 10	4 6	5 1	6 11	5 9	3 9	..	..	4 11*
	1915	5 5	4 2	5 7	6 11	4 3	4 11	9 5	..	5 3†
	1916	4 8	5 1	11 3	4 10	4 11	5 6	6 10	5 1	5 10‡
	1917	5 9	4 5	5 6	6 0	5 3	7 6	11 1	..	5 6§
	1918	**4 5**	**4 8**	**5 4**	**4 9**	**4 4**	**7 3**	**8 9**	..	**4 9‖**

* Including one change (common to all States) of £143 per week to 390 workpeople.

† Including two changes (common to all States) which resulted in an increase in wages of £2938 per week to 10,000 workpeople. ‡ Including six changes (common to all States, which resulted in an increase in wages of £1593 per week to 3546 workpeople. § Including one change (common to all States) which resulted in an increase in wages of £4800 per week to 11,000 workpeople. ‖ Including four changes (common to all States) which resulted in an increase in wages of £239 per week to 616 workpeople. The particulars relating to the numbers of workpeople who were affected by these changes, and the net amount of increase per week in each State were not ascertainable.

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In point of number of changes in each State, New South Wales was first, Victoria second, and Queensland third, in each of the years 1913 to 1916. During the year 1917 the number of changes in Queensland exceeded the number recorded in Victoria, while during the year 1918, the number of changes in Queensland was greater than the number recorded as having taken place in New South Wales. It will be seen from the table that, with the exception of New South Wales, the number of changes in rates of wage recorded during the year 1918 is higher in each State than during any previous year. The relative position of the States in point of the numbers of changes effected, and also in regard to the numbers of workers affected in each year is, of course, largely due to the magnitude of the different industries and callings in which changes took place.

Included in the particulars contained in the foregoing table are those relating to five decreases during the year 1914, seven during the year 1915, eight during the year 1916, eleven during the year 1917, and four during the year 1918. The States in which these decreases were recorded were in 1914, New South Wales three, Victoria one, and Tasmania one, affecting 272 persons in all, with a decrease of £59 per week; in 1915 New South Wales two, Tasmania two, and in Victoria, South Australia, and Western Australia one each, affecting in all 494 workers to the extent of a decrease of £81 per week. Of the eight decreases recorded during 1916 in rates of wage, six affected workpeople in New South Wales, one in Victoria and one in Western Australia. The total number of persons affected was 1730, and the amount of decrease per week was £286. In 1917 eleven decreases, affecting 12,828 workpeople, were recorded. Seven of these decreases occurred in New South Wales, two in Queensland, and one each in Victoria and South Australia. The total amount of decrease per week was £3267. In 1918, four decreases, affecting 1525 workpeople to the extent of £284 per week, were recorded. Of these four decreases two occurred in Queensland and one each in New South Wales and Victoria.

The number of changes in rates of wage during the year 1918 was 896, which is the highest number recorded since the systematic collection of these particulars by the Bureau was instituted. It will be observed, however, that although the number of separate changes was higher in the year 1918, the number of workpeople who were affected by changes in rates of wage during that year was lower than the number affected during the year 1916. The total net amount of increase per week was also higher in 1916 than in 1918. In comparison with the figures recorded during the years 1913, 1914, 1915 and 1917, it will be seen that the number of changes, number of workpeople affected, and the total net amount of increase per week recorded during the twelve months ending December, 1918, are higher in each case.

The number of workpeople who were affected by changes in rates of wage during the year 1918 was 361,581, and the total net amount of increase per week was £85,260. The corresponding figures for the year 1917 were 292,910 workpeople and £81,007, net amount of increase per week. Only four decreases in rates of wage were recorded during 1918, so that 892 of the changes recorded gave increased rates of pay. The number of workpeople affected by the four decreases was 1525. The average increase per head per week during the year 1918 was 4s. 9d., as compared with 5s. 6d. during the previous year, and 5s. 10d. during 1916, during which year the highest average increase per head per week was recorded.

3. **Changes in Rates of Wage in Male and Female Occupations. Number and Effect of Changes in each State, 1913-1918.**—Included in the changes in rates of wage recorded in the tables on pages 119 to 132 are those which in the whole or part thereof affected female occupations. Particulars in respect to these changes in so far as they relate to the numbers of male and female workers affected, etc., are set out hereunder.

(i.) *Changes in Rates of Wage according to States.*—In the following tables particulars are given of the effect of changes in rates of wage to male and female workers, as recorded for each State during the years 1913 to 1918 inclusive :—

Changes in Rates of Wage.—Male and Female Occupations.—Effect of Changes in each State and Territory, 1913-1918.

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'WLTH.
				NUMBER OF MALE EMPLOYEES AFFECTED.				
1913	83,470	44,692	16,095	3,616	3,036	1,525	..	152,434
1914	48,773	25,644	19,628	5,624	7,616	4,232	..	* 111,907
1915	97,672	36,022	21,831	9,807	2,588	2,787	185	† 180,892
1916	¶225,806	99,667	68,125	39,586	5,669	6,885	249	‡ 449,553
1917	82,601	48,136	63,066	16,844	12,788	4,759	1,143	§ 240,337
1918	128,728	91,857	59,909	12,889	8,452	3,487	624	‖ 306,562
				NET AMOUNT OF INCREASE PER WEEK TO MALE EMPLOYEES.				
	£	£	£	£	£	£	£	£
1913	20,682	9,317	3,647	1,127	428	512	..	35,713
1914	12,158	6,146	5,055	1,941	2,157	797	..	* 28,397
1915	26,975	7,572	6,250	3,431	545	730	87	† 48,528
1916	53,395	26,877	39,874	9,774	1,414	1,937	82	‡ 134,946
1917	25,773	11,080	17,106	5,244	3,329	1,878	635	§ 69,845
1918	29,410	22,574	16,186	3,311	1,889	1,284	273	‖ 75,166
				AVERAGE INCREASE PER HEAD PER WEEK TO MALE EMPLOYEES.				
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1913	4 11	4 2	4 6	6 3	2 10	6 9	..	4 8
1914	5 0	4 10	5 2	6 11	5 8	3 9	..	5 1
1915	5 6	4 2	5 9	7 0	4 3	5 3	9 5	5 4
1916	4 9	5 5	11 8	4 11	5 0	5 8	6 7	6 0
1917	6 3	5 7	5 5	6 3	5 2	7 11	11 1	5 10
1918	4 7	4 11	5 5	5 2	4 6	7 4	8 9	4 11

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Changes in Rates of Wage.—Male and Female Occupations.—Effect of Changes in each State and Territory, 1913-18—*cont.*

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'wlth.
NUMBER OF FEMALE EMPLOYEES AFFECTED.								
1913	6,148	4,562	550	958	..	1,480	..	13,698
1914	7,696	4,232	570	..	783	30	..	13,311
1915	11,588	3,065	1,033	399	73	360	..	16,518
1916	16,915	20,211	3,954	1,339	179	347	9	42,954
1917	18,557	20,136	9,777	3,365	209	529	..	52,573
1918	17,671	18,170	14,265	3,350	1,419	144	..	55,019
NET AMOUNT OF INCREASE PER WEEK TO FEMALE EMPLOYEES.								
	£	£	£	£	£	£	£	£
1913	1,107	563	55	152	..	123	..	2,000
1914	1,400	542	73	..	266	7	..	2,288
1915	2,550	506	148	108	17	48	..	3,377
1916	3,480	3,689	577	156	26	43	6	7,977
1917	3,123	4,049	2,977	826	78	109	..	11,162
1918	2,784	2,940	3,513	574	244	39	..	10,094
AVERAGE INCREASE PER HEAD PER WEEK TO FEMALE EMPLOYEES.								
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
1913	3 7	2 6	2 0	3 2	..	1 8	..	2 11
1914	3 8	2 7	2 7	..	6 9	4 8	..	3 5
1915	4 5	3 4	2 10	5 5	4 8	2 8	..	4 1
1916	4 1	3 8	2 11	2 4	2 11	2 6	13 4	3 9
1917	3 4	4 0	6 1	4 11	7 6	4 1	..	4 3
1918	3 2	3 3	4 11	3 5	3 5	5 5	..	3 8

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* Including one change (common to all States) of £143 per week to 390 workpeople.

† Including two changes (common to all States) which resulted in an increase in wages of £2938 per week to 10,000 workpeople. ‡ Including six changes (common to all States) which resulted in an increase in wages of £1593 per week to 3546 workpeople. § Including one change (common to all States) which resulted in an increase in wages of £4800 per week to 11,000 workpeople. ‖ Including four changes (common to all States) which resulted in an increase in wages of £239 per week to 616 workpeople. The particulars relating to the numbers of workpeople who were affected by these changes and the net amount of increase per week in each State were not ascertainable. ¶ Including effect of one change affecting 157 workpeople in the Federal Capital Territory.

4. **Number and Effect of Changes in Rates of Wage in each State, Classified according to Industrial Groups, 1918.**—(i.) *Changes in Rates of Wage according to Industrial Group*, 1918,—In the following table particulars are given as to the number and effect of changes in rates of wage in 1918, in each State, classified according to the fourteen industrial groups adopted by this Bureau for the classification of current rates of wage, industrial disputes, etc. Particulars concerning changes in rates of wage during the years 1913, 1914 and 1915, classified according to industrial groups, were published in Labour Report No. 6, pp. 88-91; particulars for the year 1916, were given in Labour Report No. 7, pp. 452-3, and similar particulars for the year 1917 were published in Labour Report No, 8, p. 108.

Changes in Rates of Wage, Number and Effect of Changes in each State and Territory, classified according to Industrial Groups, 1918.

Particulars.	INDUSTRIAL GROUP.														
	I. Wood, Furniture, Timber, etc.	II. Engineering, Metal Works, etc.	III. Food, Drink, Tobacco, etc.	IV. Clothing, Hats, Boots, etc.	V. Books, Printing, etc.	VI. Other Manufacturing.	VII. Building.	VIII. Mines, Quarries, etc.	IX. Rail and Tramway Services.	X. Other Land Transport.	XI. Shipping, etc.	XII. Pastoral, etc.	XIII. Domestic, Hotels, etc.	XIV. Miscellaneous.	ALL GROUPS.
New South Wales—															
Number of Changes	7	19	26	10	11	30	5	5	8	16	22	2	2	66	229
Number of Persons affected ..	3,210	18,156	10,354	7,670	1,735	7,353	3,342	7,420	18,560	10,532	687	515	1,275	55,590	146,399
Amount of Increase per week £	1,665	6,547	2,626	1,705	382	1,841	756	1,540	3,337	1,380	255	131	146	9,883	32,194
Victoria—															
Number of Changes	30	5	14	6	6	20	7	1	6	1	1	1	1	102	201
Number of Persons affected ..	6,611	8,590	9,381	9,551	4,216	5,130	9,380	575	22,763	500	80	650	410	32,190	110,027
Amount of Increase per week £	1,440	2,331	2,745	2,124	971	1,262	3,241	110	3,573	100	20	125	90	7,382	25,514
Queensland—															
Number of Changes	21	8	33	3	4	22	15	13	7	6	7	1	18	78	236
Number of Persons affected ..	3,420	3,191	9,466	1,930	1,759	1,882	4,387	1,091	15,308	1,276	217	10	6,880	23,357	74,174
Amount of Increase per week £	949	994	2,800	622	288	704	1,308	356	2,555	382	59	9	1,750	6,923	19,699
South Australia—															
Number of Changes	3	5	10	6	2	7	..	1	6	..	4	2	2	65	113
Number of Persons affected ..	1,060	1,312	1,710	3,000	927	558	..	2,100	1,290	..	107	542	665	2,968	16,230
Amount of Increase per week £	187	474	348	561	134	80	..	470	354	..	61	85	181	950	3,885
Western Australia—															
Number of Changes	2	3	6	2	1	3	..	2	10	..	3	..	..	31	63
Number of Persons affected ..	76	70	660	800	70	237	..	2,950	1,630	..	184	..	..	3,194	9,871
Amount of Increase per week £	22	21	201	174	29	57	..	476	483	..	45	..	..	625	2,133
Tasmania—															
Number of Changes	2	2	3	2	..	..	2	3	..	2	2	..	..	28	46
Number of Persons affected ..	274	485	340	264	..	..	300	149	..	474	99	..	..	1,246	3,631
Amount of Increase per week £	80	198	105	66	..	..	105	36	..	323	40	..	..	370	1,323
Northern Territory—															
Number of Changes	..	..	1	..	..	..	1	..	1	..	..	..	..	1	4
Number of Persons affected ..	..	..	500	..	..	..	10	..	74	..	..	..	..	40	624
Amount of Increase per week £	..	..	200	..	..	..	10	..	18	..	..	..	..	45	273
Commonwealth—															
Number of Changes	‡61	42	93	‡26	24	‡78	30	25	38	25	‡*38	6	23	‡270	†779
Number of Persons affected ..	14,651	31,804	32,411	23,215	8,707	15,160	17,419	14,285	59,625	12,782	1,090	1,717	9,230	118,585	361,581
Amount of Increase per week £	4,343	10,565	9,025	5,252	1,804	3,944	5,420	2,988	10,320	2,185	719	350	2,167	26,178	85,260

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* Including four changes effected by Industrial Agreements under the Commonwealth Conciliation and Arbitration Act, particulars of which in respect of the numbers affected in each State are not ascertainable. † Including particulars of changes which involved decreases in rates of wage.

‡ See paragraph on page 126.

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It should be observed that industrial awards made and agreements filed under the provisions of the Commonwealth Conciliation and Arbitration Act, which extend in their operation to more than one State, are counted as a change in each State affected. This is necessary in order that the total number of changes in each State may be obtained. The particulars for the whole Commonwealth, however, record each award and agreement once only. For example, an award affecting a section of the Commonwealth Public Service is operative in each State, and is accordingly included in the State table as a change in each State, but in the total for the Commonwealth the award is recorded as one change only. The totals of the changes recorded as operating in each State are, therefore, in some cases in excess of the totals given for the Commonwealth. On the other hand an award or agreement affecting marine cooks, stewards or seamen, where the persons affected are not working solely in any one State, the award or agreement is not recorded as a change operating in each State, but is added to the number of changes for all States.

The total number of changes during the year 1918, according to State distribution, was 896, but on classifying the changes according to occupation and industry, and taking into consideration the fact that awards and agreements made and filed under the provisions of the Commonwealth Conciliation and Arbitration Act cover, in the majority of cases, more than one State, the number of separate changes was reduced to 779. Of this number no less than 270 changes affected workpeople engaged in occupations and industries classified in Group XIV. (Miscellaneous). The number of employees who were affected by these changes was 118,585, and the amount of increase per week in wages was £26,178. Thirty-eight changes, affecting 59,625 workpeople, were classified in Group IX. (Railway and Tramway Services); 93 changes affecting 32,411 employees were classified in Group III. (Food, Drink, etc.), while the groups next in order according to workpeople affected were :—Group II. (Engineering, Metal Works, etc.) with 42 changes, affecting 31,804 workpeople; Group IV. (Clothing, Hats, Boots, etc.) with 26 changes affecting 23,215 employees; Group VII. (Building), with 30 changes affecting 17,419 workpeople; and Group VI. (Other Manufacturing), with 78 changes affecting 15,160 workpeople.

(ii.) *Changes in Rates of Wage in Female Occupations according to Industrial Groups*, 1918.—The particulars set out in the immediately preceding table shew the total number of workpeople (male and female) affected by changes in rates of wage. In the following table the number of female employees is shewn, classified according to the industrial groups in which the changes took place in each State during the year 1918. Similar information for the years 1913, 1914 and 1915 was published in Labour Report No. 6; for the year 1916 in Labour Report No. 7, and for the year 1917 in Labour Report No. 8.

Changes in Rates of Wage.—Female Occupations in each State classified according to Industrial Groups, 1918.

PARTICULARS.	INDUSTRIAL GROUP.									
	I. Wood, Furniture, etc.	II. Engineering, Metal Works, etc.	III. Food, Drink, etc.	IV. Clothing, Hats, Boots, etc.	V. Books, Printing, etc.	VI. Other Manufacturing.	IX. Rail and Tram Services.	XIII. Domestic, Hotels, etc.	XIV. Miscellaneous.	All Groups.
New South Wales—										
Number of Persons affected	340	320	1,520	4,570	1,015	500	..	25	9,381	17,671
Amount of Increase per week £	137	15	299	865	86	72	..	3	1,307	2,784
Victoria—										
Number of Persons affected	179	..	2,011	4,770	1,380	690	..	410	8,730	18,170
Amount of Increase per week £	28	..	408	832	214	71	..	90	1,297	2,940
Queensland—										
Number of Persons affected	70	..	901	1,320	485	94	219	5,755	5,421	14,265
Amount of Increase per week £	10	..	149	432	58	21	44	1,374	1,425	3,513
South Australia—										
Number of Persons affected	..	..	180	2,300	260	60	..	530	20	3,350
Amount of Increase per week £	..	..	21	381	34	11	..	117	10	574
Western Australia—										
Number of Persons affected	..	..	..	610	..	..	..	..	809	1,419
Amount of Increase per week £	..	..	..	124	..	..	..	..	120	244
Tasmania—										
Number of Persons affected	20	..	..	105	..	..	..	..	19	144
Amount of Increase per week £	4	..	..	24	..	..	..	..	11	39
Commonwealth—										
Number of Persons affected	609	320	4,612	13,675	3,140	1,344	219	6,720	24,380	55,019
Amount of Increase per week £	179	15	877	2,658	392	175	44	1,584	4,170	10,094

It will be seen from the above table that 55,019 female employees were affected by changes in rates of wage during the twelve months under review. The total net amount of increase per week received by these employees was £10,094. In Victoria 18,170 females received increased wages during the year as compared with 17,671 in New South Wales, 14,265 in Queensland, and 3350 in South Australia. Employees engaged in the manufacture of clothing, hats, boots, etc. (Group IV.), to the number of 13,675, were granted higher rates of pay during the year. The group in which the largest number of females who were affected by changes in rates of wage was Group XIV. (Miscellaneous), no less than 24,380 employees being classified under this heading. Considerable numbers of female employees in hotels and restaurants, etc. (Group XIII.), and in the preparation and manufacture of food, drink, etc. (Group III.) were granted increases during the year. In the other groups the numbers of workpeople who received increased rates during the year were not large.

(iii.) *Changes in Rates of Wage in the Commonwealth, classified according to Industrial Groups*, 1913-1918.—In the following table particulars are shewn relating to the number of changes, number of workpeople affected, and the total amount of increase per week resulting from such changes in the Commonwealth, classified according to industrial groups during the six years 1913-1918. It must be borne in mind that the numbers of changes shewn in the following table are subject to the qualifications mentioned on page 126 in regard to the awards made and agreements filed under the provisions of the Commonwealth Conciliation and Arbitration Act.

Changes in Rates of Wage in the Commonwealth according to Industrial Groups, 1913-1918.

Particulars.	INDUSTRIAL GROUP.														
	I. Wood, Furniture, Timber, etc.	II. Engineering, Metal Works, etc.	III. Food, Drink, Tobacco, etc.	IV. Clothing, Hats, Boots, etc.	V. Books, Printing, etc.	VI. Other Manufacturing.	VII. Building.	VIII. Mines, Quarries, etc.	IX. Rail and Tramway Services.	X. Other Land Transport.	XI. Shipping, etc.	XII. Pastoral, etc.	XIII. Domestic, Hotels, etc.	XIV. Miscellaneous.	ALL GROUPS.*
1913.															
Number of Changes	10	20	45	15	11	55	21	17	16	12	19	3	9	59	312
Numberof Persons affected ..	7,975	6,594	17,428	11,727	4,602	17,110	19,237	6,112	20,046	7,335	1,839	828	6,481	38,818	166,132
Amount of Increase per week £	1,569	1,607	4,255	2,062	1,126	3,480	5,696	1,210	3,219	2,324	543	436	1,922	8,264	37,713
1914.															
Number of Changes	14	30	58	10	17	41	19	25	15	10	26	2	4	94	365
Number of Persons affected ..	10,762	9,582	22,692	14,970	2,686	9,061	8,380	7,776	5,313	4,020	16,758	500	939	11,689	125,218
Amount of Increase per week £	2,516	1,834	4,958	2,461	523	2,181	2,471	1,581	1,334	716	6,933	120	188	2,869	30,685
1915.															
Number of Changes	18	51	48	7	7	61	13	37	19	15	21	3	11	54	365
Number of Persons affected ..	4,912	32,322	18,214	1,023	1,724	15,451	6,616	19,925	27,140	5,468	13,154	2,300	5,011	44,150	197,410
Amount of Increase per week £	1,131	8,835	4,204	339	539	2,921	1,173	5,507	4,629	2,082	3,702	852	1,095	14,896	51,905
1916.															
Number of Changes	35	74	107	21	27	108	37	63	64	31	44	11	13	186	821
Number of Persons affected ..	16,111	27,412	38,171	30,918	10,210	34,037	37,536	63,308	83,526	19,232	12,898	16,266	9,882	92,980	492 487
Amount of Increase per week £	4,255	6,894	16,383	6,858	2,270	9,172	12,400	17,827	17,450	5,282	3,411	16,858	2,016	21,847	142,923
1917.															
Number of Changes	14	60	66	21	31	53	38	28	50	19	25	10	15	144	574
Number of Persons affected ..	10,495	16,994	30,515	25,652	6,386	12,585	11,426	25,022	37,264	10,261	12,613	3,440	15,359	74,898	292,910
Amount of Increase per week £	2,568	3,394	2,015	6,104	1,981	4,046	3,477	12,544	12,711	3,054	5,629	1,096	3,720	18,668	81,007
1918.															
Number of Changes	61	42	93	26	24	78	30	25	38	25	38	6	23	270	779
Number of Persons affected ..	14,651	31,804	32,411	23,215	8,707	15,160	17,419	14,285	59,625	12,782	1,990	1,717	9,230	118,585	361,581
Amount of Increase per week £	4,343	10,565	9,025	5,252	1,804	3,944	5,420	2,988	10,320	2,185	719	350	2,167	26,178	85,260

* In this table an Industrial Award or Agreement under the Commonwealth Conciliation and Arbitration Act or an Order of the War Precautions Coal Board is counted as one change only, although such Award, Agreement or Order may be operative in more than one State.

5. Changes in Rates of Wage classified according to Methods by which Effected, Commonwealth and States, 1913-1918 :—

(i.) *Changes in Rates of Wage and Methods by which effected, Commonwealth*, 1913-1918.—Comparative particulars are contained in the following table, of the total number and effect of all changes in rates of wage brought about throughout the Commonwealth during the years indicated, as a result of the application of one or other of the specified methods :—

Changes in Rates of Wage, classified according to Methods by which Effected, Commonwealth, 1913-1918.

Particulars.	By Voluntary Action of Employers.	By Direct Negotiations.	By Negotiations, Intervention or Assistance of Third Party.	By Award of Court under C'wealth Act.	By Agreement Registered under C'wealth Act.	By Award or Determination under State Act.	By Agreement Registered under State Act.	TOTAL.*
1913.								
Number of Changes	2	30	4	3	24	213	36	312
Number of Workpeople affected	12,011	4,336	101	4,487	3,387	136,702	5,108	166,132
Amount of Increase per week £	1,543	1,120	20	1,679	831	31,328	1,192	37,713
1914.								
Number of Changes	12	57	1	5	31	197	62	365
Number of Workpeople affected	3,042	8,357	60	21,412	3,180	87,131	2,036	125,218
Amount of Increase per week £	478	2,503	18	7,451	953	18,719	563	30,685
1915.								
Number of Changes	21	63	20	9	14	202	36	365
Number of Workpeople affected	17,727	11,593	2,587	16,386	11,620	128,531	8,966	197,410
Amount of Increase per week £	3,941	2,872	593	4,317	3,080	34,290	2,812	51,905
1916.								
Number of Changes	51	175	9	17	30	467	72	821
Number of Workpeople affected	55,560	46,633	4,984	40,978	25,081	305,340	13,911	492,487
Amount of Increase per week £	10,831	12,114	1,518	14,965	6,800	94,005	2,690	142,923
1917.								
Number of Changes	24	75	14	35	28	310	88	574
Number of Workpeople affected	9,531	15,827	19,500	20,759	16,443	198,723	12,127	292,910
Amount of Increase per week £	3,097	5,429	10,996	7,654	5,579	44,477	3,775	81,007
1918.								
Number of Changes	14	132	3	39	142	354	95	779
Number of Workpeople affected	12,916	43,428	591	20,502	6,764	270,777	6,603	361,581
Amount of Increase per week £	2,396	9,473	334	4,481	1,683	64,642	2,251	85,260

* In this table an Industrial Award or Agreement under the Commonwealth Conciliation and Arbitration Act or an Order of the War Precautions Coal Board is counted as one change only, although such Award, Agreement or Order may be operative in more than one State. See also remarks on page 119 with respect to the inclusion of a number of Industrial Agreements filed under the provisions of the Commonwealth Act being recorded as a single change only.

It will be seen from the preceding table that, during each year for which particulars are furnished, the most frequent method by which changes in rates of wage were arranged was by award or determination under State Industrial Acts. Direct negotiations between employers and employees, or their representatives, were responsible for numerous changes during each of the years. Awards and agreements made and filed under the provisions of the Commonwealth Conciliation and Arbitration Act brought about large numbers of changes during the last three years. It must be mentioned that, so far as possible, the effect of awards or agreements are recorded in the figures for the year in which such awards or agreements are made and filed. In certain cases, however, the awards or agreements are made retrospective as to the date on which the increased rate of wage has to be paid, while in others the particulars as to the number

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of workpeople affected and the effect of the change are difficult to ascertain. In this regard it may be mentioned that the effect of the award of the Commonwealth Court of Conciliation and Arbitration regulating the wages, hours and working conditions of shearers, station hands and others in the pastoral industry, is not recorded in the tables. Further efforts are to be made to obtain reliable data as to the effect of this award, and in all probability, now that the rates have been in operation for some time, sufficient information will be obtained from the parties affected to enable summaries as to the effect of the change in rates of wage to be prepared.

(ii.) *Changes in Rates of Wage and Methods by which Effected in each State and Territory*, 1918.—The following tables set out particulars of the results of all changes in rates of wage which were recorded for the year 1918, according to the method by which the changes were effected. The particulars relating to changes effected with or without a stoppage of work are given separately, and include those involving any decrease in rates of wage. For comparative information for the year 1913, see Labour Report No. 5; for the years 1914 and 1915 see Labour Report No. 6; for the year 1916 see Labour Report No. 7; and for the year 1917 see Labour Report No. 8.

Changes in Rates of Wage—Methods by which Effected, 1918.

METHODS BY WHICH CHANGES WERE EFFECTED.	WITHOUT STOPPAGE OF WORK.			AFTER STOPPAGE OF WORK.			ALL CHANGES.		
	No. of Changes.	No. of Workpeople Affected.	Total Net Amount of Increase per week.	No. of Changes.	No. of Workpeople Affected.	Total Net Amount of Increase per week.	No. of Changes.	No. of Workpeople Affected.	Total Net Amount of Increase per week.
			£			£			£
New South Wales—									
By voluntary action of employers	8	12.463	2,299	..	..	..	8	12,463	2,299
By direct negotiations	26	9,209	2,018	3	208	62	29	9,417	2,080
By negotiations, intervention or assistance of third party ..	..	..	..	1	7	2	1	7	2
By award of court under Commonwealth Act	34	8,232	1,863	..	..	..	34	8,232	1,863
By agreement registered under Commonwealth Act	25	1,937	619	..	..	..	25	1,937	619
By award under State Act ..	100	112,888	24,807	..	..	..	100	112,888	24,807
By agreement registered under State Act	32	1,455	524	..	..	..	32	1,455	524
TOTAL	225	146,184	32,130	4	215	64	229	146,399	32,194
Victoria—									
By voluntary action of employers	2	155	13	..	..	..	2	155	13
By direct negotiations	43	25,380	4,848	6	767	303	49	26,147	5,151
By award of court under Commonwealth Act	29	4,766	1,155	..	..	..	29	4,766	1,155
By agreement registered under Commonwealth Act	53	3,691	633	..	..	..	53	3,691	633
By determination under State Act	67	71,468	17,422	1	3,800	1,140	68	75,268	18,562
TOTAL	194	105,460	24,071	7	4,567	1,443	201	110,027	25,514
Queensland—									
By direct negotiations	6	1,094	337	11	1,078	443	17	2,172	780
By award of court under Commonwealth Act	20	1,656	356	..	..	..	20	1,656	356
By agreement registered under Commonwealth Act	19	287	97	..	..	..	19	287	97
By award under State Act ..	137	66,793	17.237	..	..	..	137	66,793	17,237
By agreement registered under State Act	39	3,045	1,112	4	221	117	43	3,266	1,229
TOTAL	221	72,875	19,139	15	1,299	560	236	74,174	19,699

Changes in Rates of Wage—Methods by which Effected, 1918—*continued.*

METHODS BY WHICH CHANGES WERE EFFECTED.	WITHOUT STOPPAGE OF WORK.			AFTER STOPPAGE OF WORK.			ALL CHANGES.		
	No. of Changes.	No. of Workpeople Affected.	Total Net Amount of Increase per week.	No. of Changes.	No. of Workpeople Affected.	Total Net Amount of increase per week.	No. of Changes.	No. of Workpeople Affected.	Total Net Amount of Increase per week.
South Australia—			£			£			
By direct negotiations	13	3,951	900	3	90	23	16	4,041	923
By negotiations, intervention or assistance of third party ..	1	544	287	..	..	..	1	544	287
By award of court under Commonwealth Act	27	1,654	372	..	..	..	27	1,654	372
By agreement registered under Commonwealth Act	35	149	72	..	..	..	35	149	72
By award under State Act ..	29	9,565	2,151	..	..	..	29	9,565	2,151
By agreement registered under State Act	5	286	80	..	..	..	5	286	80
TOTAL	110	16,149	3,862	3	90	23	113	16,239	3,885
Western Australia—									£
By direct negotiations ..	11	647	178	5	190	53	16	837	231
By award of court under Commonwealth Act	20	3,576	593	..	..	..	20	3,576	593
By agreement registered under Commonwealth Act	5	12	4	..	..	..	5	12	4
By award under State Act ..	7	3,850	887	..	..	..	7	3,850	887
By agreement registered under State Act	14	1,551	398	1	45	20	15	1,596	418
TOTAL	57	9,636	2,060	6	235	73	63	9,871	2,133
Tasmania—									
By voluntary action of employers	4	298	84	..	..	..	4	298	84
By direct negotiations ..	3	304	98	..	..	..	3	304	98
By award of court under Commonwealth Act	21	544	124	..	..	..	21	544	124
By agreement registered under Commonwealth Act ..	5	72	19	..	..	..	5	72	19
By determination under State Act	13	2,413	998	..	..	..	13	2,413	998
TOTAL	46	3,631	1,323	..	..	..	46	3,631	1,323
Northern Territory—									
By direct negotiations ..	1	500	200	1	10	10	2	510	210
By negotiations, intervention or assistance of third party ..	..	..	..	1	40	45	1	40	45
By award of court under Commonwealth Act	1	74	18	..	..	..	1	74	18
TOTAL	2	574	218	2	50	55	4	624	273
All States—									
By agreement registered under Commonwealth Act ..	4	616	239	..	..	..	4	616	239
TOTAL	4	616	239	..	..	..	4	616	239
Commonwealth*—									
By voluntary action of employers	14	12,916	2,396	..	..	..	14	12,916	2,396
By direct negotiations ..	103	41,085	8,579	29	2,343	894	132	43,428	9,473
By negotiations, intervention or assistance of third party ..	1	544	287	2	47	47	3	591	334
By award of court under Commonwealth Act*	39	20,502	4,481	..	..	..	39	20,502	4,481
By agreement registered under Commonwealth Act* ..	142	6,764	1,683	..	..	..	142	6,764	1,683
By award or determination under State Acts	353	266,977	63,502	1	3,800	1,140	354	270,777	64,642
By agreement registered under State Acts	90	6,337	2,114	5	266	137	95	6,603	2,251
TOTAL*	742	355,125	83,042	37	6,456	2,218	779	361,581	85,260

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* In this section of the table an Award or Agreement under the Commonwealth Conciliation and Arbitration Act, and the Commonwealth (Public Service) Arbitration Act is counted as one change only, although such Award or Agreement may be operative in more than one State.

The total number of changes recorded during the year 1918 was 779, of which 354, or 45 per cent. of the total number were brought about by award or determination under State Industrial Acts. The number of workpeople who were affected by these changes was 270,777, and the total amount of increase per week in wages was £64,642. Of these 354 changes, 100 occurred in New South Wales, 68 in Victoria, 137 in Queensland, 29 in South Australia, 7 in Western Australia, and 13 in Tasmania. The number of changes in rates of wage which were recorded as having been made by awards or variations of awards under the provisions of the Commonwealth Conciliation and Arbitration Act was 39, as compared with 35 during the previous year. Direct negotiations between representatives of employers and employees brought about 132 changes in rates of wage during the year. A large number of industrial agreements were filed under the provisions of the Commonwealth and State Acts during the twelve months under review. Thirty seven changes in rates of wage were arranged after stoppages of work. The number of workpeople affected by these changes was 6456.

SECTION XIII.—INDUSTRIAL DISPUTES.

1. **General.**—The systematic collection of statistical information regarding industrial disputes (strikes and lock-outs) which occur in each State and Territory throughout the Commonwealth was initiated by this Bureau at the beginning of the year 1913, and particulars relating thereto, for the first complete year, were published in Labour Report No. 5. Section XI. (Strikes and Lock-outs). An examination of the available data contained in official reports, newspapers, and other publications during past years shewed that insufficient material existed, for the compilation of anything like complete or comprehensive statistics regarding industrial disputes in the Commonwealth for years prior to 1913. A considerable amount of information relating to strikes and lock-outs which took place in New South Wales after the 1st July, 1907, has been published in the New South Wales Industrial Gazette (April, 1913, January, 1914, and subsequent issues), but even these particulars are stated to be more or less incomplete until after March, 1912. With regard to the other States, very meagre information only can be obtained as to the numbers of industrial disputes, much less as to their duration or the number of persons involved.

(i.) *Collection of Particulars.*—Under the system initiated in 1913 information as to the occurrence of an industrial dispute is derived from a number of sources, of which the following are the most important:—(a) Reports by labour agents and correspondents who have been appointed in all the most important industrial centres of the Commonwealth; (b) official notifications from heads of various Commonwealth and State Departments; (c) monthly reports sent in by secretaries of trade unions, and (d) newspapers, trade and labour journals, and other publications.

Upon information being furnished as to the existence of an industrial dispute involving stoppage of work, forms* are despatched to the several parties concerned, viz., secretaries of trade unions, employers' organisations, and individual employers. The first parts of these forms are required to be returned immediately, and provide for the insertion of information as to (a) the locality in which the dispute exists; (b) its cause or object; (c) the date of commencement; and (d) the number of persons involved directly and indirectly. The second parts of the forms, which are required to be returned as soon as the dispute is terminated, provide for information regarding (a) the date of termination; (b) the conditions or terms on which work was resumed; (c) the method by which settlement was effected; (d) the estimated loss in wages; and (e) particulars as to the number of workpeople affected, etc., if the terms of the settlement involved a change in rates of wage or hours of labour.

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* As these forms have been prescribed under the Census and Statistics Act 1905, it is compulsory upon prescribed persons to furnish the information required.

(ii.) *Methods of Tabulation.*—Where the information furnished by one party to the dispute substantially agrees with that furnished by the other, the facts are considered to be accurate, and the particulars are accepted for tabulation. In all cases where discrepancies or inconsistent accounts are received, special enquiries are instituted, ordinarily through the labour agents and correspondents. The whole of the available information is then determined as judicially as possible, making the summarised results to agree not necessarily with the testimony of a single individual, but to harmonise with the concurrent evidence of the majority, or of those whose returns appear to be the most reliable. It may, therefore, happen that the particulars, as presented in these Reports concerning certain disputes, do not agree with those submitted by the participants in such disputes. Certain stoppages of work are, however, excluded from the tabulations, for the reason that they are not of sufficient magnitude. Disputes involving less than 10 workpeople or which lasted for less than one day, except where the aggregate number of working days lost exceeded 10 days, are excluded. In tabulating the particulars thus received and compared, the information is divided under four headings:—(a) Number of establishments involved; (b) number of workpeople involved (i.) directly and (ii.) indirectly; (c) number of working days lost; and (d) estimated loss in wages.

(iii.) *Definitions and Explanations of Terms.*—Industrial Disputes involving stoppage of work may be classified under three main headings, viz., (a) a strike, (b) lock-out, or (c) a sympathetic strike. For the purposes of these investigations the following definitions† have been accepted:—

(a) A strike is defined as a concerted withdrawal from work by a part or all of the employees of an establishment or of several establishments, with a view to enforcing a demand on the part of the employees, or of resisting some demand made by their employers.

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† It must be observed, however, that certain stoppages of work do not come within these definitions, such as those where the relationship of employer and employee does not exist, *e.g.*, rabbit trappers who refused to continue to supply certain freezing companies with rabbits owing to the companies refusing to pay an advanced price; and labourers refusing to commence work at the rate of wage offered. It has been held judicially that a refusal to commence or to continue work does not constitute a strike, unless such refusal is a breach of an existing contract of employment. Again, stoppages of work for the purpose of holding meetings are not designated industrial disputes, seeing that the stoppages are not necessarily for the purpose of enforcing or resisting demands. The majority of these meetings are held during working hours so as to ensure a full attendance, and are generally called to discuss some question with a view to ascertain whether any definite action should be taken.

The stop-work meetings to protest against conscription are, however, included in the tabulations, s they were called with a definite object, *i.e.*, to cause a dislocation of industry with a view to irecting attention to the opinion of a section of the workers.

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(b) A lock-out is a refusal on the part of an employer or several employers, to permit a part or all of the employees to continue at work, such refusal being made to enforce a demand on the part of the employers, or to resist some demand made by their employees.

(c) A sympathetic strike is one in which the employees of an establishment, or of several establishments, make no demand for their own benefit, but leave work in order to assist employees of some *other* establishment or establishments, on strike or locked out, for the purpose of enforcing or resisting a demand.

In view of the difficulty which may often occur in distinguishing clearly whether a stoppage of work constitutes a strike or a lock-out, for the purposes of these investigations all stoppages coming within the definitions adopted, are grouped under the generic term "industrial disputes."

"Establishment" means the place of work or business carried on by a person, firm, company, or Government Department. Shops, factories, places of business or construction or repairing works of different employers in the same locality, or of the same employer in different localities, are considered as separate establishments.

"Workpeople directly involved in dispute"* includes only those workpeople who actually joined in the demand and who, on refusal of such demand, ceased work. In the case of a lock-out the term is used to include the number of workpeople whom the employer refused to allow to work unless they complied with his demand.

"Workpeople indirectly involved in dispute" refers only to those employees who were involuntarily thrown out of work as the result of an industrial dispute, caused by certain other employees going on strike or through an employer or employers locking out certain other employees, whose absence from work rendered it impossible for work to proceed in the establishment or establishments affected by the dispute. It often occurs also that when one section of employees is engaged in an industrial dispute the effect of such dispute is to cause loss of time to other employees, following occupations which are dependent upon those followed by the workpeople actually on strike or locked out.

"Working days lost" refers to working time lost in consequence of the dispute, and is obtained by multiplying the number of workpeople directly and indirectly involved by the duration of the dispute in working days.

In computing the duration of a dispute in working days, Sundays (except where continuous processes are carried on) and holidays are excluded. It is generally considered that had a dispute not occurred the employment would have been constant, and allowance is not made for short time work, due to slackness of trade, etc. This course is not precisely correct, but until a complete investigation can be made as to the amount of unemployment due to seasonal trades, or intermittency in trade activity, no definite allowance can be computed and allowed.

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* The same persons may, of course, be involved in two or more disputes in a single year, in which case they would be duplicated in the statistics of the number of workpeople involved in disputes. This remark also applies to those workpeople involuntarily thrown out of work.

"Estimated loss in Wages" is computed, and represents the amount in wages which would have been earned by the workpeople involved had a stoppage not taken place. It is admitted that the element of unemployment also enters into this phase of the statistics. Further, in some industrial work (e.g., shearing and sugar-cane cutting) the amount of work available is definite, and the amount to be earned in wages, in executing the work, is not reduced by reason of it not being entered upon and finished within a certain reasonable period. For some purposes, therefore, it may be contended that a loss in wages is not necessarily incurred if only the commencement or completion of the work is delayed through a stoppage of work.

In all **quarterly** tabulations particulars of disputes which commenced within the quarterly period (so far as they relate to the number of working days and wages lost) are separated from those respecting disputes which had commenced in a previous quarter, but which had not been settled within that period.

In **annual** tabulations particulars are included only with respect to industrial disputes **which commenced during any calendar year.*** This course requires the elimination of such data as relates to disputes which commenced during an earlier period, but which remained unsettled during some portion of the succeeding year. On the other hand it necessitates the inclusion of the number of working days and wages lost during the following year in connection with disputes commenced during the calendar year to which the statistics relate. For this reason the aggregate of the particulars relating to the four quarters of any year will not necessarily agree with the annual results.

(iv.) *Other Particulars.*—The information obtained from the beforementioned tabulations forms the basis for further analysis, and data are thus afforded with respect to the following:—(a) The duration of disputes; (b) the causes of disputes; (c) the results of disputes; and (d) the methods by which settlements of disputes are effected. The main features of and the extent of each analysis are fully dealt with in succeeding sub-sections, and are accompanied by relative tables.

2. **Industrial Disputes (involving Stoppage of Work), Number and Magnitude in each State and Territory, 1913-1918.**—In the following table complete particulars are given with respect to the number and magnitude of industrial disputes which commenced in each State and

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* Any tabulation as to causes, duration, etc., based on disputes which were in existence in any given year, and not on those which commenced in that year, would inevitably result in confusion, seeing that particulars relating to the same dispute would probably occur in two successive years.

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Territory in the years indicated. The annual figures for the year 1913 were published in Labour Report No. 5, and those for the years 1914, 1915, 1916 and 1917 were shewn in detail in Labour Reports Nos. 6, 7 and 8. In order to allow of a ready comparison of the results, particulars are furnished in the table below for the six years 1913 to 1918 :—

Industrial Disputes (involving Stoppage of Work).—Number and Magnitude in each State and Territory, and for the Commonwealth, 1913-1918.

State or Territory.	Year.	No. of Disputes	Establishments Involved in Disputes.	No. of Workpeople Involved.			No. of Working Days Lost.	Total Estimated Loss in Wages.
				Directly.	Indirectly.	Total.		£
N. S. Wales ..	1913	134	466	25,647	14,364	40,011	468,957	216,368
	1914	235	908	33 955	22,326	56,281	836,948	419,656
	1915	272	694	47,006	22,608	69,614	464,343	240,322
	1916	336	717	91,762	31,638	123,400	1,145,222	674,064
	1917	296	918	118,515	15,508	134,023	3,308,869	1,929,405
	1918	**138**	**182**	**24,417**	**8,624**	**33,041**	**181,639**	**112,894**
Victoria ..	1913	29	63	4,151	2,026	6,177	85,212	35,744
	1914	44	164	5,699	1,352	7,051	84,106	39,619
	1915	38	154	5,434	809	6,243	64,878	28,476
	1916	55	449	13,576	2,092	15,668	228,269	114,683
	1917	52	636	15,976	2,114	18,090	760,410	378,946
	1918	**33**	**190**	**4,235**	**1,513**	**5,748**	**165,020**	**99,346**
Queensland ..	1913	17	20	1,781	225	2,006	55,288	28,374
	1914	18	42	1,280	406	1,686	25,703	11,747
	1915	17	39	1,477	589	2,066	19,934	9,505
	1916	64	252	17,367	2,951	20,318	170,690	96,976
	1917	39	202	12,074	971	13,045	317,699	178,125
	1918	**84**	**696**	**8,803**	**1,875**	**10,678**	**183,883**	**131,142**
South Australia	1913	9	13	272	16	288	2,412	1,029
	1914	13	45	616	575	1,191	15,275	7,677
	1915	15	25	1,314	169	1,483	19,877	14,442
	1916	21	45	1,037	606	1,643	10,583	6,004
	1917	24	44	3,958	146	4,104	57,446	30,306
	1918	**17**	**25**	**1,576**	**429**	**2,005**	**18,276**	**10,515**
W. Australia ..	1913	9	324	967	..	967	6,772	3,515
	1914	18	19	1,117	3,292	4,409	124,175	70,552
	1915	6	20	578	68	646	4,068	2,294
	1916	24	35	4,318	4,782	9,100	102,357	64,325
	1917	23	128	2,401	547	2,948	102,078	53,004
	1918	**22**	**56**	**3,368**	**1,435**	**4,803**	**31,145**	**17,792**
Tasmania ..	1913	8	30	444	20	464	987	434
	1914	6	22	288	25	313	3,286	1,459
	1915	2	2	922	..	922	4,808	2,174
	1916	6	36	366	68	434	21,389	11,207
	1917	8	11	1,062	623	1,685	52,541	24,502
	1918	**1**	**1**	**42**	**..**	**42**	**462**	**250**
Fed. Cap. Terr.	1913	1	1	100	100	200	1,400	600
	1914	1	1	50	..	50	350	170
	1915	1	1	20	..	20	80	55
	1916	..	..	..	..	..	..	..
	1917	..	..	..	..	..	..	..
	1918	..	..	..	..	..	..	..
Nth. Territory	1913	1	4	131	39	170	2,500	1,675
	1914	2	2	68	..	68	552	348
	1915	7	7	254	44	298	5,237	2,365
	1916	2	2	120	..	120	420	345
	1917	2	2	75	..	75	615	529
	1918	**3**	**4**	**112**	**10**	**122**	**428**	**395**
Commonwealth	1913	208	921	33,493	16,790	50,283	623,528	287,739
	1914	387	1,203	43,073	27,976	71,049	1,090,395	551,228
	1915	358	942	57,005	24,287	81,292	583,225	299,633
	1916	508	†1,536	128,546	42,137	170,683	1,678,930	967,604
	1917	444	1,941	154,061	19,909	173,970	4,599,658	2,594,808
	1918	**298**	**1,154**	**42,553**	**13,886**	**56,439**	**580,853**	**372,334**

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† These figures do not include establishments affected by the anti-conscription stop-work meetings, as definite particulars as to the number of establishments were not ascertainable.

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It may be seen from the foregoing table that industrial disputes throughout the Commonwealth were most frequent during the year 1916. The number of workpeople involved in disputes during 1916 and 1917 increased to an enormous extent, while the losses in working days and wages were considerably in excess of such losses during any previous yearly period. It must be mentioned, however, that the figures for 1914 and 1916 include particulars of abnormal disputes which occurred in the coal mining industry during those years, while particulars relating to the "card system" dispute at the Government Railway Workshops in New South Wales are included in the figures for the year 1917. In view of the magnitude of these disputes, it is of interest to mention the main features of the troubles, and also the losses in working days and wages caused by the dislocations.

In 1914, a protracted dispute occurred in the coal mining industry in New South Wales over the refusal of the miners to work the afternoon shift. The number of working days lost owing to this dislocation was 523,000, and the estimated loss in wages was approximately £259,000.

In the year 1916, another dispute of considerable magnitude was recorded, when coal mining employees in New South Wales, Victoria, Queensland, and Tasmania ceased work over the question of "eight hours bank to bank." The total losses caused by these stoppages were 409,000 working days and £240,850 in wages.

The dislocation of work during the year 1917, following on the "card system" dispute at the New South Wales Government Railway Workshops, is the most extensive which has been recorded by the Bureau since the systematic collection of particulars was undertaken at the beginning of the year 1913. After careful consideration of the data it was ascertained that 79 disputes throughout the various States were directly associated with the action of the employees at the Government Railway Workshops. The originating dispute, which commenced on the 2nd August, 1917, when the employees at the workshops ceased work, such action, according to statements of their representatives, being a protest against the introduction of a time-card system, rapidly extended to other industries throughout the Commonwealth. Railway employees in other branches of the service, coal and metalliferous miners, seamen, waterside workers, and others left work, most of them stating that they did so in sympathy with the railway men, while other bodies of workpeople, including carters, storemen, and artificial manure makers, stated that they refused to handle "black" goods and coal, and acted accordingly. Of the 79 disputes, which were the outcome of the original stoppage, 52 occurred in New South Wales; 18 in Victoria; 3 in South Australia; and 2 in each of the remaining States. The total number of workpeople involved in these dislocations was 97,507, the loss in working days was 3,982,250, with a consequent estimated loss in wages of £2,233,000. In addition a large number of employees in various industries, who were not directly connected with the dispute, were involuntarily thrown out of work, owing to the restrictions placed upon the use of coal, gas and electricity. It will be seen, therefore, that the losses occasioned by the "card system" dispute greatly exceed any previously recorded.

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In regard to extensive dislocations of industry which occurred prior to the institution of systematic inquiries by the Bureau, efforts have been made to obtain statistical data relating to the shearers' disputes in 1890, 1891 and 1894, and also concerning the number of workpeople involved and the losses caused by the maritime dispute in the early part of 1891, but precise information which could be utilised for statistical purposes regarding such particulars was not obtainable.

The predominancy of industrial disputes in New South Wales, as compared with the other States, continued during the year 1918. The proportion of disputes in each State is best expressed in a percentage of the aggregate number recorded for all States and Territories. Thus the disputes in New South Wales represented 64 per cent. in 1913, 70 per cent. in 1914, 76 per cent. in 1915, 66 per cent. in 1916, and nearly 67 per cent. in 1917. The disputes in Victoria equalled 14, 13, 11, 11 and 12 per cent. of the total industrial disputes in the respective years, while Queensland disputes represented approximately 8, 5, 5, 13 and 9 per cent. of the total disputes during the same periods. In the other States and Territories the number of disputes recorded during these years forms but a small proportion of the aggregate number.

In 1918, the percentages, which in previous years had been fairly uniform, shewed a considerable variation, the number of disputes in New South Wales being 46 per cent. of the total number, as compared with 67 per cent. in the year 1917. The number of disputes in Victoria during 1918 represented 11 per cent. of the total, while in Queensland the 84 dislocations during the same period equalled 28 per cent. of the total, a considerable increase compared with previous years. For Tasmania only one dispute was recorded during the year 1918.

A noticeable decrease in the number of stoppages of work took place during the year 1918. In all the States, with the exception of Queensland, the numbers of disputes were less than those recorded during 1916 and 1917. The total number of dislocations (298) throughout the Commonwealth during the year 1918 is the second lowest recorded during the six years that have elapsed since the end of 1912, when the systematic collection of particulars relating to industrial disputes was instituted. The increase in the number of disputes in Queensland, as compared with previous years, is considerable, but it will be noticed, that, although the number of dislocations is higher, the number of workpeople involved, and the losses incurred in working days and wages are less than those for the year 1917.

The position which New South Wales occupies in comparison with the other States is practically wholly due to the prevalence of disputes in connection with coal mining. Apart from these stoppages the number of disputes in all other industries, whilst still in excess of that for each of the other States, does not compare unfavourably when the number of workpeople in each State is taken into consideration.

The number of disputes (138) in New South Wales during 1918 was greatly in excess of those for any other State, but for the first time since the institution of the systematic collection of particulars, the losses in

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working days and wages in that State were lower than in Queensland. In all previous years the losses in New South Wales have greatly exceeded those in any other individual State.

It is, of course, obvious that the mere number of disputes cannot by itself be accepted as a proper basis of comparison, nor does the number of workpeople afford a satisfactory basis. A better idea as to the significance and effect of industrial disputes may be obtained from the number of working days lost and the estimated loss in wages.

The number of working days lost on account of disputes which commenced during the year 1918 totalled 580,853, as compared with 4,599,658 during 1917, 1,678,930 during 1916, 583,225 during 1915, 1,090,395 during 1914, and 623,528 for 1913. It has already been mentioned that the figures for the years 1914, 1916 and 1917 include the heavy losses in working days and wages caused by exceptionally serious disputes which occurred during those years.

3. **Particulars of Principal Industrial Disputes recorded during the Year 1918.** (i.) *New South Wales.*—The total number of industrial disputes in this State during the year 1918, was 138, in which 33,041 workpeople were involved, while the total number of working days lost was 181,639, causing an estimated loss in wages of £112,894. The losses caused by dislocations of work in this State during the twelve months under review were the lowest recorded for any year since the systematic collection of particulars was initiated. Of the 138 disputes, 97 involved employees engaged in the mining industry (Group VIII.). The majority of these stoppages occurred at the coal mines, and were of short duration. The disputes which caused the greatest losses in working days and wages in this group occurred at the Abermain, Richmond Main, Stanford Merthyr, Pelaw-Main, Lymington, North Bulli, Cardiff, South Seaham, New Greta and Burwood collieries. Metalliferous miners at the Ardlethan tin mines and at Broken Hill stopped work owing to disputes regarding wages and hours during the year. Employees in the engineering and metal trades (Group II.) lost 46,234 working days during the twelve months on account of 5 disputes. The dislocation which caused the greater part of this loss occurred at the Small Arms Factory, Lithgow, on account of the employees in the barrel-straightening department objecting to the system of inspection. The factory was idle for eight weeks.

As a result of a ballot taken in accordance with Section 48 of the Industrial Arbitration Act, boilermakers at the Steel Works, Newcastle, early in December gave notice of their intention to cease work, and, on the expiration of the term of the notice, did not report for work. This dispute is of interest, as it was the first instance in which action was taken under this section of the amended Act. The men were legally on strike. The cause of the trouble was the refusal of the management to recognise the State Award.

Proceedings under Section 46 of the Industrial Arbitration Act were taken during the year against the Musicians, Boilermakers, Engineers' and Stovemakers' Associations for allowing certain members to participate in illegal strikes. In each case fines were inflicted.

Bespoke bootmakers were involved in a dispute which continued for two months over the question of rates of pay, which were ultimately increased. Seamen, firemen and others engaged on vessels trading to New Zealand claimed higher rates of wage and insurance in case of death through pneumonic influenza, which was very prevalent in New Zealand during the latter part of the year. On their claims being refused they left the boats and shipping facilities were suspended. Ultimately increased rates of pay and insurance against death were granted.

Engine drivers and firemen employed on the steam shovel at the works of the Broken Hill Proprietary Limited, Broken Hill, stopped work during June on account of the refusal of the management to grant increased rates of wage to crane-drivers and rope-pullers. After a stoppage of work for six weeks the matter was settled at a conference between the representatives of the Union and the Mining Managers' Association, part of the men's claims for higher rates being conceded.

(ii.) *Victoria.*—During the year 1918, thirty-three disputes occurred in this State. The total number of workpeople involved in these disputes was 5748, of whom 4235 were directly and 1513 indirectly affected. The total loss in working days was 165,020, causing an estimated loss of £99,346 in wages. The dispute which occurred in the engineering trade during August, and continued until November, caused the greater part of the losses in working days and wages during the year. Workpeople to the number of 1884 were involved in this dislocation, and the loss in working days was 119,324, or 72 per cent. of the total loss for all disputes in the State during the twelve months. The refusal of the employers to grant a claim for a 20 per cent. increase on existing rates of wage was the cause of the trouble. After the dispute had continued for three months certain proposals for a settlement were made by the Secretary for Labour. These proposals were accepted by the parties involved, and work was resumed. The terms of the settlement are shewn hereunder :—

"(*a*) The Brassworkers' and Engineering Wages Boards to be amalgamated into one Board and a separate Board to be created for the unskilled men who are now under those Boards.

"(*b*) The Amalgamated Engineering and Brassworkers' Board to meet informally as soon as the nominations are in the hands of the Secretary for Labour.

"(*c*) Any higher rates given by the Amalgamated Engineering and Brassworkers' Board to be paid as from the date of resumption of work.

"(*d*) The engineers and brassworkers to resume work as soon as the resignations and nominations in connection with the amalgamated board are complete, and in the hands of the Secretary for Labour. The engineers to be paid on the 1918 determination rates, the brassworkers to be paid on the rates fixed in the determination of 1917, with the addition of 1s. per day all round."

The amalgamated Board was constituted under the designation, "The Engineers' and Brassworkers' (Skilled) Board," and early in the year, 1919, the Board issued a determination giving a further increase on the rates of wage specified in the 1918 determination of the Engineers' Board, which had provided for a general increase of 6s. per week on the rates previously existing.

Slaughtermen at the abattoirs in the metropolitan area claimed increased rates of wage and a reduction in working hours during November. The claims were refused and a stoppage of work ensued. Negotiations between the parties involved resulted in a compromise. An increase of 10s. per week was granted and certain concessions regarding "smoke-oh" were conceded. Slaughtermen at Newport and Geelong were also involved in disputes over wage questions during the year. Sausage casing workers were granted increased rates of pay after a stoppage of work in November. Metalliferous miners at Daylesford and Ararat lost employment for lengthy periods during the year. The trouble at Daylesford was caused by the refusal of the management to work all telescope drilling machines double-handed, while the question of "contract" or "day wages" work caused the stoppage in the Ararat district. The latter trouble was settled by conference under the Commonwealth Conciliation and Arbitration Act, but some considerable delay occurred before the mines were working smoothly.

Tramway employees on the Hawthorn electric system stopped work during December as a protest against the dismissal of a conductor. Traffic was interrupted for two days. The dispute was settled by referring the matter to the Registrar of the Commonwealth Arbitration Court. The employee was reinstated. Work on the construction of the Fitzroy-Preston tram line was delayed for three weeks, on account of the refusal by the employers of a claim by the men for increased rates of wage. The trouble was settled, after negotiations, by the employers conceding portion of the men's claims. Wheat lumpers, stackers, baggers and others employed on the wheat stacks at Maryborough, Bendigo, Stawell and Broadmeadows were involved in a dispute over rates of pay during December. The dislocation of work continued into January, when work was resumed by the men on the advice of the Commonwealth Industrial Registrar, on the understanding that their case would be heard at an early date by the Court.

(iii.) *Queensland.*—The number of stoppages of work in this State during the year 1918, was 84, a considerable increase on the number during any previous year. The loss in working days during the twelve months under review is lower than that during the year 1917, but is in excess of the loss during 1913, 1914, 1915 and 1916. Of the 84 disputes, 27 involved employees engaged in the preparation, manufacture, and distribution of food and drink (Group III.), while 23 stoppages occurred in the mining industry (Group VIII.). Nine dislocations are shewn as affecting employees engaged in pastoral and agricultural pursuits (Group XII.). In the other groups the numbers of disputes are not large. Employees in the mining industry lost 83,775 working days during the year, while workpeople engaged in the preparation, manufacture and distribution of food and drink lost 46,708 days. The number of days lost by employees in the pastoral and agricultural industry was 42,608, the majority of which were lost by sugar-cane cutters. In the other industries the losses were comparatively slight.

The principal disputes in this State during the year involved butchers, meat works employees, sugar mill workers, fellmongers, metalliferous miners at Selwyn, Mt. Cuthbert and Cloncurry, railway construction workers, sugar-cane cutters in various districts, and sewerage workers in the employ of the Metropolitan Water Supply and Sewerage Board.

The employees at the meat works in various districts were very unsettled during the year. Numerous dislocations of work occurred. Serious disputes occurred at the Ross River and Alligator Creek works during November. The refusal of a demand for the reinstatement of a dismissed employee was the original cause of the dispute, but within a short period the trouble developed into a fight over the question of the employment of non-union labour. The dislocation of work continued for four months. The employers made application to the Industrial Arbitration Court to have the "preference" clauses of the Meat Export Industry Award of March, 1918, deleted. The judgment of the Court was to the effect that preference of employment was withdrawn, so far as the whole of the works in the Northern Division were concerned.

A dispute which occurred during May at the Mt. Elliot mine, Selwyn, over the alleged victimisation of an employee, lasted for a month, and caused serious losses in working days and wages. Workpeople at the Mt. Cuthbert mines were involved in serious disputes during February and October. The first dispute arose over the system of engaging employees, while the later stoppage was due to the management refusing to comply with a demand from the men for a change in the method of contracting for supplies of firewood. Other serious dislocations affecting miners occurred at the Duchess Copper Mine in the Cloncurry district. Serious objection was taken by the men to the employment of a certain manager, and on their request for his removal being refused, they stopped work. The original dispute commenced in February. The matter was referred to the Industrial Arbitration Court, and the decision, given in March, was against the employees. The trouble arose again during April, and operations at the mine were again suspended, and continued so until January, 1919. In connection with this dispute, it may be mentioned that a large number of the employees obtained work at other mines and occupations during the currency of the dislocation. Sugar-cane cutters were implicated in a number of stoppages of work during the season. Various districts were affected, and the questions in dispute were claims for increased rates of pay and the substitution of "day" pay for the "contract" system. The most serious dislocation occurred in the Innisfail district during July, August and September. This dispute was settled by compulsory conference under the State Industrial Act. During October and November sewerage construction workers at Pinkenba were involved in a dispute over conditions of work and wages. The trouble was settled by reference to the State Arbitration Court, which granted an increase in the rates of wage and also concessions regarding hours of labour and working conditions.

(iv.) *South Australia.*—The number of disputes in this State during 1918 was 17, in which 2005 workpeople were involved. The total loss in working days was 18,276, with a consequent loss of £10,515 in wages. The dislocations responsible for the greater part of the losses were those in which tramway employees, Adelaide; engine drivers, firemen and others engaged on the East-West railway; engine drivers and firemen employed on the coal gantries, Port Pirie; and wharf labourers were involved.

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The tramway dispute occurred in November, and the original cause of the trouble was the failure of the men to report for duty on "armistice" day. The management of the Trust endeavoured to maintain a service, with the result that the question of the employment of "non-union" labour delayed the settlement of the trouble. The matter was in dispute for five days, and was ultimately settled at a conference presided over by the State Attorney-General.

Traffic on the Port Augusta-Kalgoorlie railway was suspended in October. Engine drivers, firemen and others stopped work as a protest against the refusal of a request that a free pass over the railway should be granted to the Secretary of the Association, and also to direct attention to general grievances. Work was resumed after a stoppage extending over a fortnight.

Engine drivers and firemen engaged on the coal discharging and conveying plant at the Port Pirie wharf were involved in a dispute during August and September. The engine drivers and firemen would not work with the members of the Government Workers' Association, but desired that members of the Waterside Workers' Federation should be employed. This stoppage of the coal gantries at Port Pirie caused considerable unemployment at Broken Hill, as the mining companies were unable to obtain coal, which is railed from Port Pirie. The majority of the mines closed down for periods ranging from two to four weeks, and it is estimated that about 5000 workpeople were affected.

(v.) *Western Australia.*—In this State 22 disputes were recorded during the twelve months under review. The number of workpeople involved was 4803, of whom 3368 were directly and 1435 indirectly affected. These employees lost 31,145 working days, with an estimated loss in wages of £17,792. Dislocations in the mining industry and disputes involving employees in the railway and tramway services caused the greater portion of these losses.

The principal dispute in the mining industry occurred during March, when employees at the mines in the Kalgoorlie district stopped work. Over 2000 workpeople were affected. The question of working time on Saturdays was in dispute. The men claimed a clear half day on Saturday. After negotiations, hours of work were arranged, pending final settlement by the Commonwealth Arbitration Court. Another mining dispute occurred at Boulder. A claim for 1s. per day extra for "wet work" was refused, and a stoppage of work for three days ensued. After negotiations, the claim was conceded.

Tramway employees on the Government tramways, Perth, made a claim during December for an increase of elevenpence per day for all employees. On the claim being refused they ceased work and the traffic was suspended. The dispute continued until February, 1919, when a settlement was arranged. The rate of wage existing prior to the stoppage of work was increased by fivepence per day.

Bakers at Kalgoorlie, timber workers at the No. 2 State Timber Mill, horse collar-makers at Perth, and coal miners at Collie were involved in dislocations which caused considerable losses in working days and wages during the year.

4. Industrial Disputes, Classified in Industrial Groups, 1918.

In the following tables particulars are given for each State and Territory, as well as for the Commonwealth, of industrial disputes which commenced during the year 1918, classified according to industrial groups. Similar information for the year 1913 was published in Labour Report No. 5, for the years 1914 and 1915 in Labour Report No. 6, for the year 1916 in Labour Report No. 7, and for the year 1917, in Labour Report No. 8.

Industrial Disputes, Classified according to Industrial Groups, 1918.

INDUSTRIAL GROUP.	No. of Disputes.	No. of Establishments involved	No. of Workpeople Involved.			No. of Working Days Lost.	Estimated Loss in Wages
			Directly.	Indirectly.	Total.		
							£
New South Wales.							
II. Engineering, metal works, &c.	5	6	351	1,146	1,497	46,234	23,682
III. Food, drink, &c., manufacturing and distribution	3	3	60	..	60	308	163
IV. Clothing, boots, etc	3	6	245	3	248	2,728	1,427
VI. Other manufacturing	8	9	633	140	773	3,643	2,174
VII. Building	4	7	189	41	230	532	298
VIII. Mines, quarries, &c.	97	104	18,949	6,406	25,355	97,175	68,040
IX. Railway and tramway services ..	2	2	127	68	195	1,083	672
XI. Shipping, wharf labour, &c. ..	5	13	3,556	26	3,582	20,848	10,245
XII. Pastoral, agricultural, &c.	8	29	167	20	187	1,075	782
XIV. Miscellaneous	3	3	140	774	914	8,013	5,411
TOTAL	138	182	24,417	8,624	33,041	181,639	112,894
Victoria.							
I. Wood, sawmill, timber, &c. ..	1	1	4	..	4	16	9
II. Engineering, metal works, &c. ..	1	104	1,170	714	1,884	119,324	71,750
III. Food, drink, &c., manufacturing and distribution	4	50	536	195	731	5,087	3,657
IV. Clothing, boots, etc.	4	4	103	4	107	319	139
VI. Other manufacturing	3	3	85	..	85	5,364	3,207
VIII. Mines, quarries, &c.	9	10	1,624	563	2,187	27,387	15,730
IX. Railway and tramway services ..	3	3	237	7	244	2,020	1,046
XI. Shipping, wharf labour, &c. ..	3	3	39	..	39	192	102
XII. Pastoral, agricultural, &c.	2	9	194	30	224	3,672	2,920
XIII. Domestic, hotels, &c.	1	1	15	..	15	75	22
XIV. Miscellaneous	2	2	228	..	228	1,564	764
TOTAL	33	190	4,235	1,513	5,748	165,020	99,34
Queensland.							
II. Engineering, metal works, etc. ..	3	3	70	16	86	1,399	1,073
III. Food, drink, etc., manufacturing and distribution	27	227	3,202	1,172	4,374	46,708	35,783
VI. Other manufacturing	6	6	162	2	164	684	413
VII. Building	6	7	418	27	445	3,030	1,897
VIII. Mines, quarries, &c.	23	27	3,335	523	3,858	83,775	58,972
IX. Railway and tramway services ..	2	2	101	50	151	1,668	1,120
X. Other land transport	1	10	60	..	60	180	88
XII. Pastoral, agricultural, &c.	9	407	1,232	43	1,275	42,608	28,920
XIII. Domestic, hotels, &c.	2	2	47	..	47	411	120
XIV. Miscellaneous	5	5	176	42	218	3,420	2,756
TOTAL	84	696	8,803	1,875	10,678	183,883	131,142
South Australia.							
II. Engineering, metal works, &c. ..	1	1	10	..	10	1,210	720
III. Food, drink, etc., manufacturing and distribution	1	1	75	..	75	75	36
VI. Other manufacturing	1	1	16	..	16	80	42
IX. Railway and tramway services ..	4	4	931	429	1,360	10,326	6,167
XI. Shipping, wharf labour, &c. ..	5	5	409	..	409	5,356	2,943
XII. Pastoral, agricultural, &c.	2	8	62	..	62	325	183
XIV. Miscellaneous	3	5	73	..	73	904	.424
Total	17	25	1,576	429	2,005	18,276	10,515

Industrial Disputes, Classified according to Industrial Groups, 1918—*continued.*

INDUSTRIAL GROUP.	No. of Disputes.	No. of establishments involved	NO. OF WORKPEOPLE INVOLVED.			No. of Working Days Lost.	Estimated Loss in Wages
			Directly.	Indirectly.	Total.		
Western Australia							£
I. Wood, sawmill, timber, etc... ..	3	3	76	192	268	2,216	1,206
III. Food, drink, &c., manufacturing and distribution	1	13	36	..	36	1,836	1,120
VI. Other manufacturing	1	5	12	..	12	600	350
VIII. Mines, quarries, &c.	6	18	2,560	1,189	3,749	10,956	6,664
IX. Railway and tramway services ..	5	5	375	20	395	12,213	6,610
XII. Pastoral, agricultural, &c.	3	3	227	10	237	1,859	1,065
XIV. Miscellaneous	3	9	82	24	106	1,465	777
Total	22	56	3,368	1,435	4,803	31,145	17,792
Tasmania							
VI. Other manufacturing	1	1	42	..	42	462	250
Total	1	1	42	..	42	462	250
Northern Territory.							
VII. Building	1	1	10	..	10	40	40
XI. Shipping, wharf labour, &c. ..	1	1	62	10	72	108	105
XIV. Miscellaneous	1	2	40	..	40	280	250
TOTAL	3	4	112	10	122	428	395
All States.							
I. Wood, sawmill, timber, &c. ..	4	4	80	192	272	2,232	1,215
II. Engineering, metal works, &c. ..	10	114	1,601	1,876	3,477	168,167	97,225
III. Food, drink, &c., manufacturing and distribution	36	294	3,909	1,367	5,276	54,014	40,759
IV. Clothing, boots, etc.	7	10	348	7	355	3,047	1,566
VI. Other manufacturing	20	25	950	142	1,092	10,833	6,436
VII. Building	11	15	617	68	685	3,602	2,235
VIII. Mines, quarries, &c.	135	159	26,468	8,681	35,149	219,293	149,406
IX. Railway and tramway services ..	16	16	1,771	574	2,345	27,310	15,615
X. Other land transport	1	10	60	..	60	180	88
XI. Shipping, wharf labour, &c. ..	14	22	4,066	36	4,102	26,504	13,395
XII. Pastoral, agricultural, &c.	24	456	1,882	103	1,985	49,539	33,870
XIII. Domestic, hotels, &c.	3	3	62	..	62	186	142
XIV. Miscellaneous	17	26	739	840	1,579	15,646	10,382
TOTAL	298	1,154	42,553	13,886	56,439	580,853	372 334

Any comparison as to the frequency of industrial disputes in classified industries can only be reasonably made after omitting those which are recorded for mining, quarrying, etc. (Group VIII.). For the year 1913 the proportion of disputes in those industries represented practically 50 per cent. of the total number recorded. During the year 1914 this proportion rose to 55 per cent., and during 1915 to 57 per cent. In 1916, 1917, and 1918, however, the proportion of disputes in Group VIII. shewed a decrease, the figures representing 47, 45 and 45 per cent. of the total number of disputes during the respective years. In considering this preponderating influence, attention has frequently been drawn to the considerable proportion contributed by the coal mining industry in New South Wales. In making any comparison as to the number of disputes in this industrial class in each State, it should be observed that the number of workers engaged in the mining industry is very much

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larger in New South Wales than in any of the other States. The number of disputes recorded are, however, in excess of a similar proportion. Of the 135 dislocations of work which involved employees in the mining industry during the year 1918, 97 occurred in New South Wales, 9 in Victoria, 23 in Queensland, and 6 in Western Australia.

In Labour Bulletin No. 9, Section XIV., "Prohibition of Strikes and Lock-outs in Australia," the prevalence of industrial disputes in the mining industry was investigated, vide pp. 103-4. Comparisons were made of the number of disputes and working days lost (for the years 1913 and 1914 combined) in three main industrial groups, viz., manufacturing, mining, and all other industries, in each State and all States, both as to actual or *absolute* results and relative average annual results computed on a comparable basis (per 100,000 employees), based on the number of workers in each group. The presence of the abnormal figures for 1914, due to the protracted dispute in the northern colliery district of New South Wales, renders any comparison between the results for that and any other single year somewhat indefinite, hence the combination for *absolute* results of the figures for that year with those for the year 1913. The result of that investigation was repeated in Report No. 6, together with similarly computed results for the years 1914 and 1915 combined. Further investigation on these lines has not been continued, as the figures for the years 1916 and 1917 also include particulars of abnormal disputes which debar useful comparisons.

Of the total number of working days lost and the estimated total loss in wages due to disputes which commenced during the year 1918, 38 per cent. and 40 per cent. respectively were due to stoppages which involved employees in the mining and quarrying industries (Group VIII.), as compared with 29 per cent. and 36 per cent. during the year 1917.

Engineers and employees in the metal working trades (Group II.) lost 168,167 working days, with a consequent loss of £97,225 in wages during the year 1918. These losses represent 29 and 26 per cent. of the total losses in working days and wages during the period. In Group III. (Food, Drink, etc.) 36 disputes were recorded. The total number of workpeople involved was 5276, and the working days lost numbered 54,014. The estimated loss in wages to these employees was £40,759. The principal dispute in the engineering trade (Group II.) occurred in Victoria, and the greater part of the losses recorded in Group III. (Food, Drink, etc.) was caused by numerous stoppages at the meat works in Queensland. The number of workpeople who were involved in disputes in this special class in Queensland during the year was 4374, while the losses in working days and wages were 46,708, and £35,783, being 86 and 88 per cent. of the total losses recorded in the group for the Commonwealth. Employees engaged in pastoral and agricultural pursuits (Group XII.) were involved in 24 disputes, which caused a loss of 49,539 working days, and an estimated loss of wages of £33 870. The occupations of the workpeople implicated in most of these stoppages were wheat stackers and baggers. Persons engaged in railway and tramway services (Group

IX.) lost 27,310 days owing to 16 stoppages of work. while wharf labourers and other employees in the shipping industry (Group XI.) were involved in 14 disputes, causing a loss of 26,504 working days. In the other groups the number of disputes and losses were not heavy.

5. **Duration of Industrial Disputes.**—The duration of each industrial dispute involving a loss of work, *i.e.*, the period which expires between the cessation and resumption of work, is for statistical purposes computed in working days, exclusive of Sundays and holidays, except in those cases where the establishment involved carries on a continuous process (*e.g.*, Metal Smelting and Cement Manufacture). For the purpose of tabulating comparative results as to the number of disputes, workpeople involved (directly and indirectly) and the consequent loss of working time and wages, the particulars relating to each dispute are classified according to varying periods over which the dispute remained unsettled. The following limitations of time have been adopted :—(*a*) One day or less ; (*b*) two days and more than one day ; (*c*) three days and more than two days ; (*d*) over three days and under six days (the latter considered as constituting one week) ; (*e*) one week and under two weeks ; (*f*) two weeks and under four weeks ; (*g*) four weeks and under eight weeks ; and (*h*) eight weeks and over.

Where a settlement of a dispute is reached and all the workpeople involved return to work at the same time, the duration of the dispute is readily determined. In other disputes (mainly those extending over long periods) varying conditions arise which tend to complicate the situation, such as (*a*) a proportion of the workpeople involved obtaining other employment ; (*b*) a certain number of other workpeople being temporarily employed ; and (*c*) the establishment involved in the dispute being closed down indefinitely and work abandoned. In such cases the dispute is considered to have terminated and its duration determined, either when a sufficient number of other workpeople have been engaged to enable the establishment to be carried on (substantially as before the dispute), or when evidence is obtained that the establishment has been closed down indefinitely and work abandoned. Anomalous positions have been reached in some instances. In one case a dispute remained technically in existence so far as the workpeople were concerned, even after the establishment had been closed down and work therein abandoned. In another, a dispute was considered by the workpeople to be still in existence, notwithstanding that their places had been filled and the establishment had resumed operations.

(i.) *Duration of Industrial Disputes in Commonwealth*, 1913-1918.—In the following table comparative particulars are given with respect to the number of disputes, workpeople directly and indirectly involved, working days lost, and estimated amount of loss in wages respectively, consequent upon the cessations of work, which were recorded for the Commonwealth during the years 1913, 1914, 1915, 1916, 1917 and 1918, classified under the adopted limits of duration :—

Duration of Industrial Disputes in the Commonwealth, 1913–1918.

Limits of Duration.	Year.	No. of Disputes.	No. of Workpeople Involved.			Number of Working Days Lost.	Total Estimated Loss in Wages. £
			Directly.	Indirectly.	Total.		
1 day and less ..	1913	66	9,698	5,075	14,773	14,773	8,168
	1914	118	15,295	10,192	25,487	25,438	13,744
	1915	147	21,846	11,326	33,172	31,559	19,452
	1916	155	55,680	10,711	66,391	65,757	35,293
	1917	158	28,705	6,758	35,463	35,065	26,733
	1918	**74**	**11,032**	**4,534**	**15,596**	**15,264**	**12,364**
2 days and more than 1 day ..	1913	22	2,631	1,945	4,576	9,022	4,449
	1914	53	6,309	3,352	9,661	18,382	8,986
	1915	44	6,671	2,246	8,917	17,794	9,464
	1916	57	11,607	5,923	17,530	31,775	17,672
	1917	47	7,093	2,383	9,476	18,917	12,253
	1918	**40**	**9,720**	**1,714**	**11,434**	**20,746**	**14,274**
3 days and more than 2 days ..	1913	17	1,294	610	1,904	5,707	2,946
	1914	29	2,983	1,987	4,970	14,910	7,500
	1915	30	3,526	1,513	5,039	14,944	7,672
	1916	45	8,050	5,220	13,270	39,419	23,612
	1917	29	4,363	433	4,796	14,340	9,442
	1918	**33**	**5,012**	**2,530**	**7,542**	**22,042**	**13,618**
Over 3 days and less than one week (6 days)	1913	25	3,785	1,004	4,789	19,057	8,940
	1914	38	2,252	2,117	4,369	19,728	9,449
	1915	31	5,032	3,153	8,185	36,469	21,176
	1916	81	13,460	5,918	19,378	86,817	50,484
	1917	39	4,749	1,578	6 327	27,132	16,868
	1918	**31**	**2,404**	**98**	**2,502**	**11,100**	**7,697**
1 week and less than 2 weeks ..	1913	34	7,551	1,972	9,523	72,156	32,700
	1914	38	5,222	1,206	6,428	53,108	27,868
	1915	48	11,372	4,184	15,556	127,477	41,875
	1916	64	8,081	5,493	13,574	108,978	60,933
	1917	58	9,003	1,669	10,672	79,857	47,336
	1918	**45**	**5,896**	**1,634**	**7,530**	**60,967**	**42,514**
2 weeks and less than 4 weeks ..	1913	21	1,439	4,671	6,110	76,260	41,040
	1914	30	6,382	4,491	10,873	181,896	91,419
	1915	21	4,101	624	4,725	64,959	47,404
	1916	41	8,565	3 960	12,525	202,657	117,211
	1917	38	10,190	2,654	12,844	210,184	118,362
	1918	**35**	**2,966**	**1,251**	**4,217**	**62,654**	**43,700**
weeks and less than 8 weeks ..	1913	11	6,206	1,177	7,383	273,342	121,864
	1914	17	823	719	1,542	52,674	26,717
	1915	22	2,723	681	3,404	95,836	51,761
	1916	32	19,348	3,207	22,555	644,960	402,471
	1917	49	45,338	1,823	47,161	1,615,954	821,402
	1918	**23**	**3,365**	**1,272**	**4,637**	**169,911**	**107,157**
weeks and over ..	1913	12	889	336	1,225	153,211	67,632
	1914	14	3,807	3,912	7,719	724,259	365,545
	1915	15	1,734	560	2,294	194,187	100,829
	1916	33	3,755	1,705	5,460	498,567	259,928
	1917	26	44,620	2,611	47,231	2,598,209	1,542,412
	1918	**17**	**2,128**	**853**	**2,981**	**218,169**	**131,010**
Total	1913	208	33,493	16,790	50,283	623,528	287,739
	1914	337	43,073	27,976	71,049	1,090,395	551,228
	1915	358	57,005	24,287	81,292	583,225	299,633
	1916	508	128,546	42,137	170,683	1,678,930	967,604
	1917	444	154 061	19,909	173,970	4,599,658	2,594,808
	1918	**298**	**42.553**	**13.886**	**56.439**	**580.853**	**372,334**

It will be seen from the tables shewing the duration of industrial disputes, that for the past six years disputes lasting for one day or less were the most frequent. In 1913 the first year for which particulars were collected, stoppages of one day or less represented 32 per cent. of the total number, while they equalled in 1914, 35 per cent.; in 1915, 41 per cent.; in 1916, 31 per cent.; in 1917, 36 per cent.; and in 1918, 25 per cent. Disputes which terminated in less than one week represented 62 per cent, of the total number in 1913; 71 per cent. in 1914; 70 per cent. in 1915; 67 per cent. in 1916; 61 per cent. in 1917; and 60 per cent. in 1918. The disputes which continued for four weeks or over were responsible for the greater part of the losses in working days and wages in each of the years for which particulars have been recorded.

Disputes lasting over four weeks in 1917 represented 17 per cent. of the total number recorded, were responsible for 92 per cent. of the total number of working days lost, and were the cause of 91 per cent. of the estimated loss in wages during that year. The corresponding percentages for the year 1918 are 13 per cent. of the total number of disputes, 67 per cent. of the total loss in working days, and 64 per cent. of the loss in wages. During the year 1918 seventeen disputes continued for a period of eight weeks or over, causing a loss of 218,169 working days, and an estimated loss in wages of £131,010. These figures shew a marked decrease, as compared with those for the two preceding years, when the figures were exceptionally large, owing to the two abnormal disputes previously mentioned as having occurred during 1916 and 1917.

(ii.) *Duration of Industrial Disputes in each State and Territory.*—In the following tables particulars are given for each State and Territory of the number of disputes which commenced during the year 1918, and relative information, classified according to the adopted limits of duration. Comparative particulars for the year 1913 were published in Labour Report No. 5, for the years 1914 and 1915 in Labour Report No. 6, for the year 1916 in Labour Report No. 7, and for the year 1917, in Labour Report No. 8.

Duration of Industrial Disputes in each State and Territory, 1918.

Limits of Duration.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'wlth.
NO. OF DISPUTES.								
1 day and less	59	..	11	3	1	..	..	74
2 days and more than 1 day	22	7	7	1	2	..	1	40
3 days and more than 2 days	9	8	11	..	5	..	..	33
Over 3 days & less than 1 wk	11	4	10	2	3	..	1	31
1 week and less than 2 weeks	17	4	14	4	4	1	1	45
2 weeks and less than 4 weeks	8	6	15	4	2	..	..	35
4 weeks and less than 8 weeks	8	..	12	1	2	..	..	23
8 weeks and over	4	4	4	2	3	..	..	17
Total	138	33	84	17	22	1	3	298
NO. OF WORKPEOPLE AFFECTED.								
1 day and less	14,566	..	801	117	112	..	..	15,596
2 days and more than 1 day	8,690	939	1,547	30	156	..	72	11,434
3 days and more than 2 days	1,693	358	1,850	..	3,641	..	..	7,542
Over 3 days & less than 1 wk	1 418	354	558	73	89	..	10	2,502
1 week and less than 2 weeks	3,239	1,306	1,438	1,110	355	42	40	7,530
2 weeks and less than 4 weeks	766	709	2,017	587	138	..	..	4,217
4 weeks and less than 8 weeks	2,277	..	2,088	25	247	..	..	4,637
8 weeks and over	392	2,082	379	63	65	..	..	2 981
Total	33,041	5,748	10,678	2,005	4,803	42	122	56,439
NO. OF WORKING DAYS LOST.								
1 day and less	14,234	..	801	117	112	..	..	15,264
2 days and more than 1 day	15,770	1,557	2,939	60	312	..	108	20,746
3 days and more than 2 days	4,879	993	5,548	..	10,622	..	..	22,042
Over 3 days & less than 1 wk	6,296	1,766	2,247	365	386	..	40	11 100
1 week and less than 2 weeks	26,275	11,217	12,897	6,941	2,895	462	280	60,967
2 weeks and less than 4 weeks	9,480	11 447	33,297	6,214	2,216	..	..	62,654
4 weeks and less than 8 weeks	83,582	..	74,222	825	11,282	..	..	169,911
8 weeks and over	21,123	138,040	51,932	3,754	3,320	..	..	218 169
Total	181,639	165,020	183 883	18,276	31,145	462	428	580,853
ESTIMATED LOSS IN WAGES.								
	£	£	£	£	£	£	£	£
1 day and less	11,581	..	636	63	84	..	..	12,364
2 days and more than 1 day	10,798	796	2,329	40	206	..	105	14,274
3 days and more than 2 days	2,860	552	3,731	..	6,475	..	..	13,618
Over 3 days & less than 1 wk	4,465	1,266	1,491	204	231	..	40	7,697
1 week and less than 2 weeks	19,036	7,502	9,835	4,039	1,602	250	250	42,514
2 weeks and less than 4 weeks	6,986	7,550	24,245	3,739	1,180	..	..	43,700
4 weeks and less than 8 weeks	46,308	..	54,295	460	6,094	..	..	107,157
8 weeks and over	10,860	81,680	34,580	1,970	1,920	..	..	131 010
Total	112 894	99,346	131,142	10,515	17,792	250	395	372,334

(iii.) *Duration of Industrial Disputes in classified Industrial Groups.*—The foregoing particulars for the year 1918 are further analysed in the following tables, in so far as they relate to the industrial groups of industries.

Industrial Disputes Commenced during the Year 1918, according to Duration, Classified in Industrial Groups.

NO. OF DISPUTES.

INDUSTRIAL GROUP.	LIMITS OF DURATION.								
	1 Day and Less.	2 Days and more than 1 Day.	3 Days and more than 2 Days.	Over 3 Days and less than a week.	1 Week and less than 2 Weeks.	2 Weeks and less than 4 Weeks.	4 Weeks and less than 8 Weeks.	8 Weeks and over.	Total.
I. Wood, sawmill, timber, &c.	..	2	..	1	..	1	..	..	4
II. Engineering, metal works, &c.	..	1	2	1	1	..	3	2	10
III. Food, drink, tobacco, &c.	7	7	3	4	6	5	1	3	36
IV. Clothing, hats, boots, etc. ..	1	3	1	1	..	..	..	1	7
VI. Other manufacturing ..	6	1	4	3	2	1	..	3	20
VII. Building	1	1	2	2	2	..	3	..	11
VIII. Mines, quarries, &c. ..	53	17	14	7	17	14	8	5	135
IX. Railway & tramway services	..	..	1	4	4	3	2	..	14
X. Other land transport ..	..	..	1	..	..	..	..	..	1
XI. Shipping, wharf labour, &c.	3	3	2	..	2	2	2	2	16
XII. Pastoral, agricultural, &c.	..	4	2	4	6	4	2	..	22
XIII. Domestic, hotels, &c ..	..	..	..	2	..	1	..	..	3
XIV. Miscellaneous	3	1	1	2	5	4	2	1	19
ALL GROUPS	74	40	33	31	45	35	23	17	298

NO. OF WORKPEOPLE INVOLVED.

INDUSTRIAL GROUP.	1 Day and Less.	2 Days and more than 1 Day.	3 Days and more than 2 Days.	Over 3 Days and less than a week.	1 Week and less than 2 Weeks.	2 Weeks and less than 4 Weeks.	4 Weeks and less than 8 Weeks.	8 Weeks and over.	Total.
I. Wood, sawmill, timber, &c.	..	156	..	4	..	112	..	..	272
II. Engineering, metal works, &c.	..	14	139	34	209	..	1,187	1,894	3,477
III. Food, drink, tobacco, &c.	727	1,468	483	378	794	1,185	15	226	5,276
IV. Clothing, hats, boots, etc ..	150	72	51	35	..	..	..	47	355
VI. Other manufacturing ..	395	14	447	55	72	29	..	80	1,092
VII. Building	108	12	283	80	176		26	..	685
VIII. Mines, quarries, &c. ..	14,095	6,180	5,832	1,482	3,583	1,527	2,086	364	35,149
IX. Railway & tramway services	..	..	161	157	1,038	659	247	..	2,262
X. Other land transport ..	..	..	60	..	..	..	..	..	60
XI. Shipping, wharf labour, &c.	80	3,302	24	..	286	83	57	353	4,185
XII. Pastoral, agricultural, &c.	..	91	54	135	353	509	836	..	1,978
XIII. Domestic, hotels, &c. ..	..	..	..	26	..	36	..	..	62
XIV. Miscellaneous	41	125	8	116	1,019	77	183	17	1,586
ALL GROUPS	15,596	11,434	7,542	2,502	7,530	4,217	4,637	2.981	56,439

NO. OF WORKING DAYS LOST.

INDUSTRIAL GROUP.	1 Day and Less.	2 Days and more than 1 Day.	3 Days and more than 2 Days.	Over 3 Days and less than a week.	1 Week and less than 2 Weeks.	2 Weeks and less than 4 Weeks.	4 Weeks and less than 8 Weeks.	8 Weeks and over.	Total.
I. Wood, sawmill, timber, &c.	..	312	..	16	..	1,904	..	..	2,232
II. Engineering, metal works, &c.	..	28	417	170	1,254	..	45,764	120534	168,167
III. Food, drink, tobacco, &c.	727	2,781	1,449	1,812	7,230	18,449	540	21,026	54,014
IV. Clothing, hats, boots, etc. ..	37	144	153	175	..	..	..	2,538	3,047
VI. Other manufacturing ..	254	28	1,139	240	642	377	..	8,153	10,833
VII. Building	108	24	849	320	1,250	..	1,051	..	3,602
VIII. Mines, quarries, &c. ..	14,043	12,029	17,195	6,525	32,029	22,382	67,120	47,970	219,293
IX. Railway & tramway services	..	..	402	658	6,432	6,918	11,282	..	25,692
X. Other land transport ..	..	..	180	..	..	..	..	..	180
XI. Shipping, wharf labour, &c.	54	4,968	72	..	2,017	1,618	2,329	17,064	28,122
XII. Pastoral, agricultural, &c.	..	182	162	590	2,885	9,398	36,244	..	49,461
XIII. Domestic, hotels, &c. ..	..	..	..	130	..	356	..	..	486
XIV. Miscellaneous	41	250	24	464	7,228	1,252	5,581	884	15,724
ALL GROUPS	15,264	20,746	22,042	11,100	60,967	62,654	169911	218160	580,853

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6. **Causes of Industrial Disputes.**—The object which is alleged (by the employers and on behalf of the employees) to have been the cause of a stoppage of work does not in every instance agree in detail. In such instances additional information is sought to verify or support the contention on either side. On occasions the alleged object is of a twofold character, in which case the claim, which is fully or partially satisfied, and results in a resumption of work, is taken to be the principal cause of the dispute. For the purpose of classification these causes (or objects) of industrial disputes are grouped under seven main headings, viz. :—(1) *Wages* ; (2) *Hours of Labour* ; (3) *Employment of Particular Classes or Persons* ; (4) *Working Conditions* ; (5) *Trade Unionism* ; (6) *Sympathy* ; and (7) *Other Causes*. The first five mentioned groups are subdivided in the following manner to meet varying phases of demands made under each of the main headings :—

Classification of Causes of Industrial Disputes.

1. *Wages.*
    - (*a*) For increase.
    - (*b*) Against decrease.
    - (*c*) System of payment.
    - (*d*) Readjustment of rates.
    - (*e*) Other wage questions.
2. *Hours of Labour.*
    - (*a*) For reduction.
    - (*b*) Other questions concerning hours.
3. *Employment of Particular Classes or Persons.*
    - (*a*) Employment of women instead of men.
    - (*b*) Employment of apprentices
    - (*c*) For reinstatement of discharged employees.
    - (*d*) Against employment of certain officials.
    - (*e*) Other questions concerning employment.
4. *Working Conditions and Discipline*
    - (*a*) For change.
    - (*b*) Against change.
    - (*c*) Other.
5. *Trade Unionism.*
    - (*a*) For closed shop—Employment of non-unionists.
    - (*b*) Other union questions.
6. *Sympathy.*
7. *Other Causes.**

(i.) *Causes of Industrial Disputes in the Commonwealth*, 1913-1918.—In the following tables particulars are given with respect to the number of disputes, total number of workpeople involved and number of working days lost throughout the Commonwealth during the six years, 1913 to 1918, classified according to causes :—

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* "Other causes" has been adopted to meet various sets of circumstances, which mainly arise in connection with stoppages which are not concerted movements, and include among others the following :—(*a*) During the course of a meeting of miners. the wheelers return their horses to the stables and leave the colliery ; (*b*) disputes (not necessarily connected with industrial matters that the employer can control) arise between wheelers and clippers or any two sets of workers, and sufficient workmen are not available to work the mine to its full capacity ; (*c*) workmen abstain from work to attend the Police Court to hear prosecutions against certain other employees ; (*d*) to witness some amusement; or (*e*) for other reasons which are subsequently ruled by the officials of the union to be either impracticable or against former decisions.

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Causes of Industrial Disputes in the Commonwealth, 1913-1918.

Causes of Disputes.	1913.	1914.	1915.	1916.	1917.	1918.
NUMBER OF DISPUTES.						
1. **Wages**—						
(*a*) For increase	42	50	73	125	53	54
(*b*) Against decrease	4	3	10	7	1	4
(*c*) Other wage questions ..	31	67	46	96	69	69
2. **Hours of Labour**—						
(*a*) For reduction	3	1	3	16	2	1
(*b*) Other disputes *re* hours	7	13	6	5	8	11
3. **Trades Unionism**—						
(*a*) Against employment of non-unionists	8	13	19	14	26	7
(*b*) Other union questions ..	5	11	16	8	32	19
4. **Employment of particular Classes or Persons**	44	83	76	83	90	92
5. **Working Conditions**	51	72	76	90	81	34
6. **Sympathetic**	5	3	6	20	57	1
7. **Other Causes**	8	21	27	44	25	6
Total	208	337	358	508	444	298
NUMBER OF WORKPEOPLE INVOLVED.						
1. **Wages**—						
(*a*) For increase	8,633	7,362	18,783	30,193	7,135	7,095
(*b*) Against decrease	563	534	1,113	1,051	21	57
(*c*) Other wage questions ..	7,160	15,243	11,990	23,507	18,894	12,737
2. **Hours of Labour**—						
(*a*) For reduction	460	220	896	24,481	1,004	26
(*b*) Other disputes *re* hours	1,819	3,237	2,643	579	2,576	4,214
3. **Trades Unionism**—						
(*a*) Against employment of non-unionists	5,370	5,807	3,873	1,178	6,182	710
(*b*) Other union questions ..	1,418	1,593	3,739	1,167	17,320	6,673
4. **Employment of particular Classes or Persons**	11,370	14,863	13,844	15,910	15,445	14,576
5. **Working Conditions**	10,785	17,053	16,114	20,516	19,021	7,757
6. **Sympathetic**	947	675	950	4,191	76,076	200
7. **Other Causes**	1,758	4,462	7,347	47,910	10,296	2,394
Total	50,283	71,049	81,292	170,683	173,970	56,439
NUMBER OF WORKING DAYS LOST.						
1. **Wages**—						
(*a*) For increase	100,069	99,451	190,645	592,625	56,083	198,323
(*b*) Against decrease ..	9,438	32,965	12,555	6,192	42	316
(*c*) Other wage questions ..	78,183	169,847	133,606	143,218	225,080	97,561
2. **Hours of Labour**—						
(*a*) For reduction	2,774	9,240	836	583,052	78,016	312
(*b*) Other disputes *re* hours	15,111	16,855	23,374	1,598	62,560	20,551
3. **Trades Unionism**—						
(*a*) Against employment of non-unionists	91,002	92,720	31,145	48,881	87,600	21,89
(*b*) Other union questions ..	32,388	6,968	7,434	10,276	572,949	24,34
4. **Employment of particular Classes or Persons**	191,723	64,367	77,862	70,452	47,297	113,466
5. **Working Conditions**	73,562	584,289	82,322	81,511	211,971	93,468
6. **Sympathetic**	24,066	2,125	6,004	75,447	3,239,798	7,200
7. **Other Causes**	5,212	11,568	17,442	65,648	18,262	3,421
Total	623,528	1,090,395	583,225	1,678,930	4,599,658	580,853

It will be observed from the above table that the main causes of industrial disputes are "Wage" questions, "Working Conditions" and "Employment of Particular Classes or Persons." In each of the six years, 1913-1918, the number of dislocations concerning wages exceeded those caused by any other question. In 1913 the number of stoppages over wage questions represented 37 per cent. of the total number during that year, as compared with 36 per cent. in 1914; 36 per cent. in 1915; 45 per cent. in 1916; 28 per cent. in 1917; and 43 per cent. in 1918.

The majority of the disputes classified under the heading, " Employment of Particular Classes or Persons," are stoppages of work for the purpose of protesting against the dismissal of certain employees, whom their fellow-workers consider have been unfairly treated or victimised. This class of dispute occurs very frequently in the coal mining industry. The number of disputes over " Trade Union" questions, and " Hours of Labour" have represented a fairly uniform proportion of the total number of disputes during the years under review. " Sympathetic" disputes were numerous during the years 1916 and 1917. The figures for the latter year were abnormal in comparison with the other periods. It may be mentioned, however, that the disputes which arose during that year in connection with the " time-card system" dispute were responsible for the increase in the number.

(ii.) *Causes of Industrial Disputes in each State and Territory*, 1918.—In the following tables particulars in respect of the number of industrial disputes recorded for the year 1918, the number of workpeople involved, and the number of working days lost are classified (under the adopted classification of causes) for each State and Territory in the Commonwealth.

Causes of Industrial Disputes in each State and Territory, 1918.

Causes of Disputes.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'wlth.
NO. OF DISPUTES.								
1. Wages—								
(*a*) For increase ..	12	9	17	7	8	..	1	54
(*b*) Against decrease ..	..	..	3	..	1	..	..	4
(*c*) Other wage questions	35	2	23	2	6	..	1	69
2. **Hours of Labour**—								
(*a*) For reduction ..	..	..	..	..	1	..	..	1
(*b*) Other disputes *re* hours	6	3	1	..	1	..	..	11
3. **Trade Unionism**—								
(*a*) Against employment of non-unionists ..	2	2	3	..	..	..	..	7
(*b*) Other union questions	12	..	3	4	..	..	..	19
4. **Employment of particular classes or persons** ..	40	13	30	3	4	1	1	92
5. **Working conditions** ..	24	4	4	1	1	..	..	34
6. **Sympathetic**	1	..	..	..	..	..	..	1
7. **Other causes**	6	..	..	..	..	..	..	6
Total	138	33	84	17	22	1	3	298
NO. OF WORKPEOPLE INVOLVED.								
1. Wages—								
(*a*) For increase ..	1,185	2,909	2,174	172	615	..	40	7,095
(*b*) Against decrease ..	..	..	52	..	5	..	..	57
(*c*) Other wage questions	7,372	1,115	2,915	301	962	..	72	12,737
2 **Hours of Labour**—								
(*a*) For reduction ..	..	..	..	..	26	..	..	26
(*b*) Other disputes *re* hours	1,581	167	23	..	2,443	..	..	4,214
3. **Trade Unionism**—								
(*a*) Against employment of non-unionists ..	233	255	222	..	..	..	..	710
(*b*) Other union questions	5,118	..	193	1,362	..	..	..	6,673
4. **Employment of particular classes or persons** ..	7,938	1,151	4,555	158	722	42	10	14,576
5. **Working conditions** ..	7,020	151	544	12	30	..	..	7,757
6. **Sympathetic**	200	..	..	..	..	..	..	200
7. **Other causes**	2,394	..	..	..	..	..	..	2,394
Total	33,041	5,748	10,678	2,005	4,803	42	122	56,439

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Causes of Industrial Disputes in each State and Territory, 1918—*continued.*

Causes of Disputes.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'wlth.
NO. OF WORKING DAYS LOST.								
1. **Wages**—								
(*a*) For increase ..	22,571	129,063	26,913	2,673	16,823	..	280	198,323
(*b*) Against decrease ..	..	..	166	..	150	..	..	316
(*c*) Other wage questions	24,926	13,350	52,765	1,957	4,455	..	108	97,561
2. **Hours of Labour**—								
(*a*) For reduction ..	..	..	..	..	312	..	..	312
(*b*) Other disputes *re* hours	9,876	3,116	230	..	7,329	..	..	20,551
3. **Trade Unionism**—								
(*a*) Against employment of non-unionists ..	893	1,715	19,286	..	..	..	..	21,894
(*b*) Other union questions	12,687	..	669	10,985	..	..	..	24,341
4. **Employment of particular classes or persons** ..	18,546	7,493	82,290	2,649	1,986	462	40	113,466
5. **Working conditions** ..	81,519	10,283	1,564	12	90	..	..	93,468
6. **Sympathetic**	7,200	..	..	..	..	..	..	7,200
7. **Other causes**	3,421	..	..	..	..	..	..	3,421
Total	181,639	165,020	183,883	18,276	31,145	462	428	580,853

Of the total number of disputes (298) which commenced during the year 1918, "Wage" questions were responsible for 127, of which number 54 were claims by the employees for increases. Ninety-two disputes occurred over the "Employment of Particular Classes or Persons," while 34 arose over "Working Conditions." "Trade Union" matters were the cause of 26 stoppages of work, and 12 dislocations occurred over "Hours of Labour." Only one dispute was classified under the heading "Sympathetic" during the year.

7. **Results of Industrial Disputes.**—The terms or conditions (as between the parties involved in an industrial dispute) upon which a resumption of work is agreed, are taken as the basis of the result of the dispute. These terms or conditions when analysed in comparison with the alleged cause of the stoppage invariably come within one or other of the following four definitions, viz. :—

(*a*) In favour of workpeople.

(*b*) In favour of employer.

(*c*) Compromise.

(*d*) Indefinite.

Disputes are considered to result :—(*a*) *In favour of workpeople*, when the employees succeed in enforcing compliance with all their demands or are substantially successful in obtaining their principal object, or in resisting a demand made by their employers ; (*b*) *In favour of employer*, when the demands of the employees are not conceded or when the employer or employers are substantially successful in enforcing a demand; (c) *Compromise*, when the employees are successful in enforcing compliance with a part of their demands or of resisting substantially full compliance with the demands of their employer or employers; (*d*) *Indefinite*, in other cases, such, for example, as those in which employees stop work owing to some misconception regarding the terms of an award, determination, or agreement, and work is resumed as usual on the matters in dispute being explained, or in cases where a dispute arises in connection with certain work which is, however, abandoned, even though the employees return to the same establishment to be employed on other work. The results of "Sympathetic" disputes, in which a body of workers cease work with the object of assisting another body of workers in obtaining compliance with some concrete demand, are generally "Indefinite," except when the stoppage is entered upon partially to enforce a demand in which they might ultimately bene

(i.) *Results of Industrial Disputes, Commonwealth*, 1913-1918. The following table shews the number of disputes, number of workpeople involved, and the number of working days lost in disputes throughout the Commonwealth during the six years 1913-1918, classified according to results :—

Industrial Disputes classified according to Results, Commonwealth, 1913-1918.

YEAR	NO. OF DISPUTES.				NUMBER OF WORKPEOPLE INVOLVED IN DISPUTES.				TOTAL NO. OF WORKING DAYS LOST BY DISPUTES.			
	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.
1913	67	64	66	11	10,914	12,211	24,826	2,332	59,823	104,654	433,014	26,037
1914	118	98	110	11	21,224	18,242	30,396	1,187	129,995	119,819	829,265	11,316
1915	190	78	68	22	44,140	15,327	14,860	6,965	245,625	155,659	151,544	30,397
1916	223	178	84	23	70,588	36,670	23,296	40,129	886,010	253,084	476,302	63,534
1917	147	188	100	9	24,331	119,589	22,310	7,740	103,267	4,201,981	285,103	9,307
1918	92	100	93	13	13,780	15,998	23,739	2,922	101,207	177,223	280,045	22,378

It will be seen from the above table that, during the years 1913, 1914, 1915 and 1916 the disputes resulting in favour of workpeople exceeded those resulting in favour of employers. During 1917 and in 1918, however, the position was reversed. A considerable number of disputes in each year resulted in a compromise, while certain disputes resulted in such a manner that they could not be definitely classed under any heading other than "Indefinite." The majority of these disputes are of short duration.

(ii.) *Industrial Disputes in Commonwealth, classified according to Causes and Results*, 1918.—The following table shews the number of disputes, number of workpeople involved, and the total number of working days lost in disputes which commenced in a State or Territory of the Commonwealth during the year 1918, classified according to principal cause and result :—

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Industrial Disputes, Classified according to Causes and Results, Commonwealth, 1918.

CAUSE.	No. of Disputes.				No. of Workpeople involved in Disputes.				Total No. of Working Days Lost by Disputes.			
	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.
Wages—												
(a) For increase	21	16	16	1	2,451	1,371	3,263	10	40,475	12,240	144,398	1,210
(b) Against decrease ..	3	1	..	..	43	14	..	..	302	14	..	..
(c) Other wage questions ..	24	17	27	1	3,233	2,677	6,452	375	12,363	8,368	76,455	375
Hours of Labour—												
(a) For reduction	..	..	..	1	..	..	..	26	..	..	..	312
(b) Other disputes *re* hours ..	1	5	5	..	530	580	3,104	..	6,240	6,064	8,247	..
Trade Unionism—												
(a) Against employment of non-unionists	2	5	..	..	343	367	..	..	1,663	20,231	..	..
(b) Other union questions ..	6	6	6	1	1,126	848	4,471	228	1,970	6,556	13,307	2,508
Employment of particular Classes or Persons ..	24	36	26	6	4,538	4,499	4,056	1,483	34,605	45,363	23,850	9,648
Working Conditions	9	12	13	..	1,394	3,970	2,393	..	3,467	76,213	13,788	..
Sympathetic ..	..	..	..	1	..	..	..	200	..	..	..	7,200
Other Causes ..	2	2	..	2	122	1,672	..	600	122	2,174	..	1,125
TOTAL ..	92	100	93	13	13,780	15,998	23,739	2,922	101207	177,223	280,045	22,378

NOTE.—For corresponding particulars for 1913 see Labour Report No. 5, pp. 78-9; for 1914 and 1915, see Labour Report No. 6, p. 119; for 1916, see Labour Report No. 7, p. 500, and for 1917, see Labour Report No. 8, p. 137.

(iii.) *Results of Industrial Disputes in each State*, 1918.—The following table shews for each State and Territory the number of disputes, the number of workpeople involved, and the total number of working days lost through disputes which commenced during the year 1918, classified according to results:—

Industrial Disputes in each State, Classified according to Results, 1918.

State or Territory.	No. of Disputes.				No. of Workpeople Involved in Disputes.				Total No. of Working Days lost by Disputes.			
	In favour of Workpeople.	In favour of Employer.	Compromise.	Indefinite.	In favour of Workpeople.	In favour of Employer.	Compromise.	Indefinite.	In favour of Workpeople.	In favour of Employer.	Compromise.	Indefinite.
New South Wales	32	56	41	9	6,120	11,944	12,168	2,809	38,707	84,554	42,816	15,562
Victoria	7	12	13	1	1,124	841	3,736	47	3,854	15,944	139,958	5,264
Queensland ..	37	18	28	1	4,916	1,828	3,904	30	53,215	62,404	68,234	30
South Australia ..	4	10	2	1	157	1,020	818	10	907	11,097	5,062	1,210
Western Australia	9	3	9	1	1,341	323	3,113	26	4,096	2,762	23,975	312
Tasmania.. ..	..	1	..	..	..	42	..	..	..	462	..	..
Northern Territory	3	..	..	..	122	..	..	..	428	..	..	..
Total, C'wealth	92	100	93	13	13,780	15,998	23,739	2,922	101,207	177,223	280,045	22,378

The particulars in the above table shew that during the year 1918, 100 disputes resulted in favour of the employers; 92 in favour of the workpeople, and 93 in a compromise. In New South Wales, Victoria, South Australia and Tasmania the majority of the disputes resulted in favour of the employers, while in Queensland and Western Australia the results, according to numbers of disputes, favoured the employees. The three disputes which were recorded during the period for the Northern Territory resulted in favour of the workpeople. It will be noticed that 23,739 workpeople were involved in the 93 stoppages of work, which were classified under the heading "Compromise," as compared with 13,780 involved in disputes which resulted in favour of the workpeople, and 15,998 in disputes which ended in favour of the employers. In regard to working days lost by disputes, it will be seen that disputes which resulted in compromise caused the greatest loss, while those which resulted in favour of the employers were next in order. The disputes which resulted indefinitely did not cause serious losses of working days.

8. **Methods of Settlement of Industrial Disputes.**—Methods of settlement, *i.e.*, the means adopted whereby the parties to an industrial dispute or their representatives are either brought into active negotiations or other steps are taken to bring about a termination of the dispute, and a consequent resumption of work, are very varied, but for the purposes of statistical classification may be confined within the following six main headings, viz.:—

(i.) By negotiations.
(ii.) Under State Industrial Act.
(iii.) Under Commonwealth Arbitration Act.
(iv.) By filling places of workpeople on strike or locked out.
(v.) By closing down establishment permanently.
(vi.) By other methods.

The first three main headings are further divided as follows:—

(i.) By negotiations—
    (*a*) Direct negotiations between employers and employees or their representatives.
    (*b*) By intervention or assistance of distinctive third party, not under Commonwealth or State Industrial Acts.

(ii.) Under State Industrial Acts—
    (*a*) By intervention, assistance, or compulsory conference.
    (*b*) By reference to Board or Court.

(iii.) Under Commonwealth Conciliation and Arbitration Act—
    (*a*) By intervention, assistance, or compulsory conference.
    (*b*) By reference to Court.

Each of the first five methods indicates some definite action taken to arrive at a settlement of the issue or issues in an industrial dispute which involves a cessation of work. The sixth, "Other Methods," is more or less indefinite, and synchronises with "Other Causes" and mainly relates to resumptions of work at collieries at the next shift, without any cause for the stoppages being necessarily made known officially to the management.

(i.) *Methods of Settlement of Industrial Disputes—Commonwealth,* 1913-1918.—In the following tables the number of disputes, number of workpeople involved, number of working days lost, and estimated loss in wages caused by industrial disputes during the six years 1913-1918 are classified for the Commonwealth according to the adopted schedule of methods of settlement :—

Methods of Settlement of Industrial Disputes, Commonwealth, 1913-1918.

Methods of Settlement.	1913.	1914.	1915.	1916.	1917.	1918.
NUMBER OF DISPUTES.						
Negotiations—						
Direct between employers and employees or their representatives	119	247	254	319	234	171
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	17	11	29	34	38	21
Under State Industrial Act—						
By intervention assistance or compulsory conference ..	19	7	3	9	12	20
By reference to Board or Court	22	17	5	10	13	14
Under Commonwealth Conciliation and Arbitration Act—						
By intervention, assistance or compulsory conference ..	4	5	2	6	3	8
By Filling Places of Workpeople on Strike or Locked Out ..	13	16	9	18	36	26
By Closing-down Establishment Permanently	1	4	1	6	4	8
By other Methods	13	30	55	106	104	30
Total	208	337	358	508	444	298
NUMBER OF WORKPEOPLE INVOLVED.						
Negotiations—						
Direct between employers and employees or their representatives	23,357	48,204	54,242	68,841	49,512	34,680
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	3,172	8,054	6,170	32,043	23,338	4,155
Under State Industrial Act—						
By intervention assistance or compulsory conference ..	6,505	770	1,515	2,117	6,295	2,958
By reference to Board or Court	12,774	7,308	815	2,291	2,779	3,392
Under Commonwealth Conciliation and Arbitration Act—						
By intervention assistance or compulsory conference ..	659	265	2,919	1,110	1,490	3,042
By Filling Places of Workpeople on Strike or Locked Out ..	658	629	205	413	17,780	1,933
By Closing-down Establishment Permanently	170	86	200	150	434	538
By other Methods	2,988	5,793	15,226	63,718	72,342	5,744
Total	50,283	71,049	81,292	170,683	173,970	56,439

Methods of Settlement of Industrial Disputes, Commonwealth, 1913-1918—*cont.*

Methods of Settlement.	1913.	1914.	1915.	1916.	1917.	1918.
NUMBER OF WORKING DAYS LOST.						
Negotiations—						
Direct between employers and employees or their representatives	94,400	803,799	384,425	563,828	551,484	222,846
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	26,335	128,231	56,126	812,763	863,896	37,444
Under State Industrial Act—						
By intervention, assistance or compulsory conference ..	187,871	4,256	20,537	31,696	159,799	57,559
By reference to Board or Court	221,769	120,685	15,418	48,022	48,352	151,472
Under Commonwealth Conciliation and Arbitration Act—						
By intervention, assistance or compulsory conference ..	2,105	1,421	26,883	20,697	33,396	23,289
By Filling Places of Workpeople on Strike or Locked Out ..	14,139	4,402	1,533	9,060	908,596	35,298
By Closing-down Establishment Permanently	20,400	3,646	19,600	2,776	11,392	4,270
By other Methods	56,509	23,955	58,703	190,088	2,022,743	48,675
Total	623,528	1,090,395	583,225	1,678,930	4,599,658	580,853
ESTIMATED LOSS IN WAGES.						
Negotiations—						
Direct between employers and employees or their representatives	£ 43,834	£ 402,729	£ 203,290	£ 309,617	£ 287,348	£ 139,426
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	12,394	66,225	26,788	500,537	591,359	23,271
Under State Industrial Act—						
By intervention assistance or compulsory conference ..	86,277	1,841	9,832	18,075	65,352	41,358
By reference to Board or Court	104,293	64,208	7,716	23,047	32,444	96,211
Under Commonwealth Conciliation and Arbitration Act—						
By intervention assistance or compulsory conference ..	1,373	712	8,522	8,228	18,333	14,311
By Filling Places of Workpeople on Strike or Locked Out ..	6,478	2,076	891	4,326	453,844	24,514
By Closing-down Establishment Permanently	7,850	1,651	10,500	1,588	6,456	2,764
By other Methods	25,240	11,786	32,094	102,186	1,139,672	30,479
Total	287,739	551,228	299,633	967,604	2,594,808	372,334

In the above tables the methods of settlement of all disputes recorded during the past six years are set out in comparative form. In all years it will be observed that direct negotiations between the employers and employees settled the majority of the disputes. During the year 1913, 57 per cent. of the total number of dislocations was settled by direct negotiations as compared with 73 per cent. during 1914; 71 per cent. during 1915; 63 per cent. during 1916; 53 per cent. during 1917; and 57 per cent. during 1918. The numbers of dislocations which have been settled by compulsory conferences or the intervention and assistance of officials under State or Commonwealth Arbitration Acts have not varied greatly during the period under review. In connection with the comparatively large numbers of disputes which are classified as having been settled "By other methods," it must be mentioned that a large number of stoppages of work occur each year, principally at the collieries, without any cause for such stoppages being brought officially under the notice of the employers or their representatives. Such stoppages usually last for one day, and work is resumed on the following morning without any negotiations for a settlement of the trouble which caused the stoppage.

(ii.) *Methods of Settlement of Industrial Disputes in each State and Territory*, 1918. In the following tables the number of disputes, number of workpeople involved, number of working days lost, and estimated loss in wages caused by industrial disputes commenced during the year 1918 are classified for each State and Territory according to the adopted methods of settlement :—

Methods of Settlement of Industrial Disputes in each State and Territory, 1918.

Methods of Settlement.	N.S.W.	Vic.	Q'land	S.A.	W.A.	Tas.	N.T.	C'wlth
NO. OF DISPUTES.								
Negotiations—								
Direct between employers and employees, or their representatives	97	15	36	5	16	..	2	171
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	2	3	10	3	2	..	1	21
Under State Industrial Act—								
By intervention, assistance or compulsory conference	4	..	16	..	..	..	..	20
By reference to Board or Court	2	1	11	..	..	..	..	14
Under Commonwealth Conciliation and Arbitration Act—								
By intervention, assistance or compulsory conference	2	5	..	..	1	..	..	8
By Filling Places of Workpeople on Strike or Locked out	11	5	4	4	1	1	..	26
By Closing down Establishment permanently	1	2	3	..	2	..	..	8
By other Methods	19	2	4	5	..	..	..	30
TOTAL	138	33	84	17	22	1	3	298
NO. OF WORKPEOPLE INVOLVED.								
Negotiations—								
Direct between employers and employees, or their representatives	25,891	1,725	4,594	698	1,690	..	82	34,680
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	87	1,296	1,178	1,087	467	..	40	4,155
Under State Industrial Act—								
By intervention, assistance or compulsory conference	460	..	2,498	..	..	..	..	2,958
By reference to Board or Court	222	1,884	1,286	..	..	..	..	3,392
Under Commonwealth Conciliation and Arbitration Act								
By intervention, assistance or compulsory conference	91	508	..	..	2,443	..	..	3,042
By Filling Places of Workpeople on Strike or Locked out	1,124	172	322	113	160	42	..	1,933
By Closing down Establishment permanently	40	104	351	..	43	..	..	538
By other Methods	5,126	59	449	107	..	..	..	5,741
TOTAL	33,041	5,748	10,678	2,005	4,803	42	122	56,439

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Methods of Settlement of Industrial Disputes in each State and Territory, 1918—*cont.*

Methods of Settlement.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'wlth.
NO. OF WORKING DAYS LOST.								
Negotiations—								
Direct between employers and employees, or their representatives	145,810	10,091	40,884	6,322	19,591	..	148	222,846
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	2,814	19,042	6,986	6,733	1,589	..	280	37,444
Under State Industrial Act—								
By intervention, assistance or compulsory conference	3,886	..	53,673	..	..	..	..	57,559
By reference to Board or Court	5,358	119,324	26,790	..	..	..	..	151,472
Under Commonwealth Conciliation and Arbitration Act								
By intervention, assistance or compulsory conference	2,569	13,391	..	..	7,329	..	..	23,289
By Filling Places of Workpeople on Strike or Locked out	7,223	2,613	20,121	3,439	1,440	462	..	35,298
By Closing down Establishment permanently	120	312	2,642	..	1,196	..	..	4,270
By other Methods	13,859	247	32,787	1,782	..	..	..	48,675
TOTAL	181,639	165,020	183,883	18,276	31,145	462	428	580,853
ESTIMATED LOSS IN WAGES.								
Negotiations—	£	£	£	£	£	£	£	£
Direct between employers and employees, or their representatives	88,725	6,198	29,677	3,810	10,871	..	145	139,426
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	1,774	11,290	4,937	3,930	1,090	..	250	23,271
Under State Industrial Act—								
By intervention, assistance or compulsory conference	2,886	..	38,472	..	..	..	..	41,358
By reference to Board or Court	3,570	71,750	20,891	..	..	..	..	96,211
Under Commonwealth Conciliation and Arbitration Act								
By intervention, assistance or compulsory conference	1,467	8,443	..	..	4,401	..	..	14,311
By Filling Places of Workpeople on Strike or Locked out	5,107	1,356	15,250	1,751	800	250	..	24,514
By Closing down Establishment permanently	70	184	1,880	..	630	..	..	2,764
By other Methods	9,295	125	20,035	1,024	..	..	..	30,479
TOTAL	112,894	99,346	131,142	10,515	17,792	250	395	372,334

It will be seen from the above tables that 171 disputes during the year 1918 were settled by direct negotiations between employers and employees or their representatives. In New South Wales, 97 or 70 per cent. of the total number of disputes in that State during the twelve months, were settled by this method, while in Victoria, Queensland, Western Australia and Northern Territory this method of settlement was the most frequent. It will be noticed that, in Queensland, 16 disputes were settled by intervention or by compulsory conference under the State Arbitration Act, while 11 dislocations were settled by referring the matters in dispute to the State Industrial Court. Twenty-six disputes during the year were terminated by filling the places of the workpeople who ceased work. Of the 30 dislocations which are classified as having been settled by "other methods" it will be seen that 19 occurred in New South Wales. The majority of these disputes involved employees at the collieries, and lasted one day.

SECTION XIV.—STATE FREE EMPLOYMENT BUREAUX.

1. **General.**—In the following paragraphs, particulars are given of the operations of the various State Labour Bureaux. In Labour Report No. 6 (page 130), attention was drawn to the fact that the systems adopted in the several States for the registration of applications for work and from employers are not uniform, and that the comparisons which can be drawn from the figures shewing the results of the operations of these Bureaux are subject to certain limitations.

2. **Applications and Positions Filled, 1913 to 1918.**—The following table shews the total number of applications for employment and from employers, and the number of positions filled in the Commonwealth during the years 1913 to 1918.

State Free Employment Bureaux.—Applications for Employment and from Employers, and Positions Filled in the Commonwealth, during the Years 1913 to 1918.

Year.	Applications for Employment.			Applications from Employers.			Positions filled.
	On Live Register at Beginning of Period.	Received during Period.	Total.	On Live Register at Beginning of Period.	Received during Period.	Total.	
1913	2,520	81,356	83,876	*321	*26,103	*26,424	35,312
1914	2,326	100,917	103,243	*1,017	*29,223	*30,240	37,365
1915	9,075	102,264	111,339	†370	†20,900	†21,270	39,069
1916	7,345	85,349	92,694	†1,758	†34,982	†36,740	42,384
1917	5,487	76,710	82,197	†994	†27,372	†28,366	36,657
1918	4,676	77,652	82,328	†750	†39,970	†40,720	45,416

* Exclusive of Victoria and South Australia, for which States particulars are not available.
† Exclusive of Victoria, South Australia and Western Australia.

During the year 1918 out of every 1000 applicants for work 551 obtained positions against 446 for the year 1917. The number of applicants for work was slightly larger, and the number of positions filled, 12 per cent. greater, during the year 1918 than during 1917.

3. **Applications and Positions Filled in each State during 1918.**—The following table shews the number of applications for employment and from employers, and the number of positions filled in each State during the year 1918:—

State Free Employment Bureaux.—Applications for Employment and from Employers, and Positions Filled in different States, 1918.

State.	Applications for Employment.			Applications from Employers.			Positions filled.
	On Live Register at Beginning of Year.	Received during Year.	Total.	On Live Register at Beginning of Year.	Received during Year.	Total.	
New South Wales	..	21,114	21,114	..	22,949	22,949	16,167*
Victoria	617	10,322	10,939	†	†	†	4,807
Queensland	3,443	31,165	34,608	750	17,012	17,762	14,629*
South Australia	616	6,964	7,580	†	†	†	4,636*
Western Australia	..	8,037	8,037	†	†	†	5,133
Tasmania	..	50	50	..	9	9	44
Commonwealth	4,676	77,652	82,328	‡750	‡39,970	‡40,720	45,416

* Including persons who received advances of travelling expenses from the Labour Bureau, but who were not directly engaged through the medium of that institution. † Not available.
‡ Exclusive of Victoria, South Australia, and Western Australia.

The following are the percentages of those applicants who obtained employment through the Bureaux in the various States :—New South Wales, 77 ; Victoria, 44 ; Queensland, 42 ; South Australia, 61 ; Western Australia, 64 ; and Tasmania, 88 per cent.

4. **Applications and Positions Filled in Various Industrial Groups during 1918.**—The following table furnishes particulars for the year 1918 of the operations of the Free Labour Bureaux, classified according to industrial groups :—

State Free Employment Bureaux.—Applications for Employment and from Employers, and Positions Filled in different Industrial Groups, 1918.

Industrial Group.	Applications for Employment.			‡ Applications from Employers.			Positions filled.
	On Live Register at Beginning of Year.	Received during Year.	Total.	On Live Register at Beginning of Year.	Received during Year.	Total.	
I. Wood, Furniture, Saw-mill, Timber Workers, etc.	10	*118	* 128	..	*9	*9	*516
II. Engineering, Metal Works, etc. ..	281	* 2,062	*2,343	3	*281	*284	*449
III. Food, Drink, Tobacco, etc.	72	*485	*557	..	*108	*108	*103
IV. Clothing, Hats, Boots, etc.	15	*162	*177	8	*348	*356	*102
V. Books, Printing, etc. ..	18	*119	*137	4	*43	*47	*40
VI. Other Manufacturing ..	..	*20	*20	..	..	..	*5
VII. Building	525	5,902	6,427	12	3,162	3,174	2,897
VIII. Mining, Quarrying, etc.	109	2,152	2,261	..	1,157	1,157	1,492
IX. Rail and Tram Services	611	13,137	13,748	..	11,455	11,455	12,091
X. Other Land Transport	..	843	843	..	1,745	1,745	138
XI. Shipping, Wharf Labour, etc.	..	384	384	..	150	150	100
XII. Pastoral, Agricultural, Rural, etc.	892	9,130	10,022	126	4,140	4,286	5,837
XIII. Domestic, Hotels, etc.	213	9,377	9,590	258	7,705	7,963	8,015
XIV. General Labour and Miscellaneous. ..	1,930	30,476	32,406	319	7,068	7,387	11,717
TOTAL	4,676	77,652 †	82,328 †	750	39,970 †	40,720 †	45,416 †

* Exclusive of New South Wales. † Inclusive of New South Wales.
‡ Exclusive of Victoria, South Australia, and Western Australia.

Attention has already been drawn to the fact that there is considerable diversity in the nature and scope of the work ordinarily carried out by the Bureaux in the various States. For example, in some States in which certain Government Departments obtain workers from the Labour Bureaux, the number of workers is naturally larger in comparison with the number in the same groups in other States. Thus, of the positions filled in Group IX. (Rail and Tramway Services), 18 per cent. were filled in New South Wales, 54 per cent. in Queensland, and 27 per cent. in South Australia. In Victoria only 85, in Western Australia only 19, and in Tasmania no positions were filled in this group. Practically the whole of the positions filled in Group XIII. (Domestic, Hotels, etc.) were

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in three States, New South Wales, Queensland and Western Australia. Of the positions filled in this group, 6596, or 82 per cent., as against 5571, or 86 per cent. in 1917, were for female domestic workers, and the whole of these positions were filled in the three above-mentioned States, these being the only States which make special provisions for female workers. In the manufacturing groups (I. to VI.) 47 per cent. of the applicants obtained positions.

5. **Applications and Positions Filled during 1918, Males and Females.**—The following table gives particulars, for male and female workers separately, of the number of applications for employment, and from employers, and the number of positions filled during the year 1918 :—

State Free Employment Bureaux.—Applications and Positions Filled, Males and Females, 1918.

Particulars.	Applications for Employment.			*Applications from Employers.			Positions filled.
	On Live Register at Beginning of Year.	Received during Year.	Total.	On Live Register at Beginning of Year.	Received during Year.	Total.	
Males	4,499	69,191	73,690	488	33,342	33,830	38,439
Females	177	8,461	8,638	262	6,628	6,890	6,977
TOTAL	4,676	77,652	82,328	750	39,970	40,720	45,416

* Exclusive of Victoria, South Australia and Western Australia.

Of the total number of registrations for employment during the year 1918, 73,690, or 89.5 per cent. (against 87.5 per cent. in 1917) were made by males, and 8638, or 10.5 per cent., by females. The number of positions filled for males was 38,439, or 84.6 per cent. (against 83 per cent. in 1917), and for females, 6977, or 15.4 per cent.

For every 1000 applications for employment from male workers, 522 positions were filled in 1918, as against 423 in 1917, while for every 1000 applications from female workers, 808 were filled, as against 606 in 1917.

SECTION XV.—ASSISTED IMMIGRANTS.

1. **General.**—The following table shews the total number of immigrants, the cost of whose passage was wholly or partly defrayed by the State Governments, up to the end of the year 1910, and the number arriving in each year since that date :—

Commonwealth.—Number of Assisted, Selected, or Nominated Immigrants to the End of the Year 1918.

Particulars.	To end of 1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	Total.
No. of Immigrants	686,666	39,796	46,712	37,445	20,805	5,796	1,397	504	426	839,547

During the three years 1911 to 1913, inclusive, the average number of assisted immigrants was 41,317. During 1914, as the result of the outbreak of war in the latter half of the year, the number dropped to 20,805. In each of the years 1915 to 1918 inclusive, the number of immigrants arriving has been small, and in 1918 was only 426.

2. Number of Assisted Immigrants arriving in each State, 1918.—The following table shews the number of nominated immigrants arriving in each State during the year 1918. No selected immigrants arrived during that year :—

Assisted Immigrants.—Number arriving in each State, 1918.

Particulars.		N.S.W.	Vict.	Q'land.	S. Aust.	W. Aus.	Tas.	C'wlth.
Selected		..	..	..	..	..	..	..
Nominated	Male	31	24	20	..	4	..	79
	Female	168	77	80	..	22	..	347
Total		199	101	100	..	26	..	426

3. Number of Assisted Immigrants, classified in Industrial Groups, 1918.—In the following table particulars are given of assisted immigrants of each sex, classified according to industrial groups, dependants being specified separately :—

Assisted Immigrants.—Classified according to Sex and Industrial Group, 1918.

INDUSTRIAL GROUP.	SELECTED.			NOMINATED.		
	Males.	Females	Total.	Males.	Females	Total.
I. Wood, Furniture, etc.	..	..	..	..	..	..
II. Engineering, Metals, etc.	..	..	..	1	..	1
III. Food, Drink, Tobacco, etc.	..	..	..	..	2	2
IV. Clothing, Hats, Boots, etc.	..	..	..	..	14	14
V. Books, Printing, etc.	..	..	..	1	1	2
VI. Other Manufacturing	..	..	..	..	1	1
VII. Building	..	..	..	1	..	1
VIII. Mining	..	..	..	..	..	..
IX. Rail and Tramway Services	..	..	..	..	..	..
X. Other Land Transport	..	..	..	..	..	..
XI. Shipping, Wharf Labour, etc.	..	..	..	..	..	..
XII. Pastoral, Agricultural, etc.	..	..	..	2	..	2
XIII. Domestic, Hotels, etc.	..	..	..	1	32	33
XIV. General Labour and Miscellaneous	..	..	..	5	5	10
Dependants, Adults	..	..	..	13	219	232
„ Children under 12 years			..	55	73	128
TOTAL	..	..	..	79	347	426

Of the total number of immigrants, 360, or 84.5 per cent., were dependants, and 33, or 7.7 per cent., in the domestic group. Of the dependants, 18.9 per cent. were males and 81.1 per cent. females.

SECTION XVI.—INDUSTRIAL ACCIDENTS.

1. **Scope of Investigations.**—The various districts from which returns of industrial accidents were received during the year 1918 are the same as those from which similar information was furnished during preceding years. These districts are tabulated on page 135 of Labour Report No. 6, and need not be recapitulated.

2. **Number of Accidents Reported during Years 1913 to 1918.**—The following table shows the number of accidents which were reported in each State during the years 1913 to 1918 :—

Industrial Accidents.—Number Reported in each State during the Years 1913 to 1918.

Particulars.		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
No. of Fatal Accidents	1913	82	24	33	5	34	7	185
	1914	61	26	25	3	31	13	159
	1915	53	23	17	9	31	11	144
	1916	52	18	12	8	21	3	114
	1917	39	15	24	4	18	5	105
	1918	42	20	23	6	31	5	127
No. of Accidents incapacitating for over 14 days ..	1913	3,427	308	286	117	813	79	5,030
	1914	3,238	367	384	84	763	76	4,912
	1915	2,811	401	517	97	980	77	4,883
	1916	2,894	427	428	152	885	76	4,862
	1917	*	408	502	295	885	78	2,168†
	1918	*	370	521	317	733	59	2,000†

* Owing to the repeal of the Miners' Accident Relief Act, particulars as to non-fatal mining accidents in New South Wales are not available. † Exclusive of New South Wales.

The total number of fatal accidents for the year 1918 was 127, as against 105 for the preceding year, an increase of 12.1 per cent. There was a decrease amounting to 4.2 per cent. in Queensland, while there were increases of 7.7 per cent. in New South Wales, 33.3 per cent. in Victoria, 50.0 per cent. in South Australia, and 72.2 per cent. in Western Australia.

As regards non-fatal accidents the number exclusive of New South Wales was 7.7 per cent. smaller in 1918 than in 1917. There were decreases of 9.3 per cent. in Victoria, of 17.2 in Western Australia, and of 24.4 per cent. in Tasmania, and increases of 3.8 per cent. in Queensland, and of 7.5 per cent. in South Australia.

3. **Number of Accidents Reported during the Four Quarters of 1918.**—The following table shows the number of accidents which were reported in each State during the four quarters of 1918 :—

Industrial Accidents.—Number Reported in each State during the Four Quarters of 1918.

Particulars.		N.S.W.	Vic.	Q'land	S.A.	W.A.	Tas.	C'wlth
No. of Fatal Accidents	1st Quarter	11	4	4	2	7	1	29
	2nd ,,	9	5	12	2	8	2	38
	3rd ,,	9	6	2	2	5	..	24
	4th ,,	13	5	5	..	11	2	36
No. of Accidents incapacitating for over 14 days	1st Quarter	*147	87	132	89	192	11	658†
	2nd ,,	*159	91	129	92	206	22	700†
	3rd ,,	*212	108	138	84	117	11	670†
	4th ,,	*154	84	121	52	218	15	644†

* Owing to the repeal of the Miners' Accident Relief Act, particulars as to non-fatal mining accidents in New South Wales are not available. † Exclusive of non-fatal mining accidents in New South Wales.

4. **Number of Accidents Reported in each Industrial Group during the Year 1918.**—The following table gives similar particulars regarding accidents in various industrial groups :—

Industrial Accidents.—Number Reported in various Industrial Groups during the Year 1918.

Industrial Group.	Fatal.	Incap'citated for over 14 days.	Industrial Group.	Fatal.	Incap'citated for over 14 days.
I. Wood, Furniture, etc.	2	379	VII. Building and Scaffolding ..	5	18
II. Engineering, etc. ..	6	351	VIII. Mining	93	1,300*
III. Food, Drink, etc. ..	5	190	IX. Lifts	7	9
IV. Clothing, Hats, etc.	..	110	X. Miscellaneous ..	5	21
V. Books, Printing, etc.	..	112			
VI. Other Manufacturing	4	182			
			TOTAL	127	2,672*

* Exclusive of mining accidents in New South Wales.

The largest number of accidents occurred in the mining industry, 93, or 73 per cent. of the fatal accidents having occurred in that industry in 1918.

5. **Mining Accidents.—Sources of Information.**—The particulars regarding mining accidents in the different States are obtained from various sources, a brief summary of which follows:—(a) *New South Wales.*—Returns of all accidents to persons employed in or about mines were formerly furnished by the Secretary of the Miners' Accident Relief Board, but details of fatal accidents are now supplied by the Mines Department. The Chief Inspector of Factories also furnishes returns of accidents occurring in smelting works (other than those directly connected with mines), which are registered as factories. (b) *Victoria.*—Returns of accidents are furnished by the Mines Department, with the exception of those occurring in a few metallurgical works, which are registered as factories, and are under the jurisdiction of the Chief Inspector of Factories. (c) *Queensland.*—In this State returns are furnished by the Chief Inspector of Mines. (d) *South Australia.*—All particulars as to accidents in and about mines are furnished by the Chief Registrar of Mines. (e) *Western Australia.*—The State Mining Engineer sends particulars, and in cases of accidents occurring with machinery or boilers, the Chief Inspector of Machinery also furnishes returns. (f) *Tasmania.*—All information is obtained from the Chief Inspector of Mines.

6. **Classification of Mining Accidents.**—In the following tables are given particulars of mining accidents occurring in each State during the year 1918, shewing in which class of mining (metalliferous or coal) they occurred, also the causes of such accidents:—

Mining Accidents.—Classification according to Causes in each State, 1918.*

A.—Fatal Accidents.

Cause of Accident.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
(*a*) METALLIFEROUS MINES.							
1. **Below Ground—**							
Accidents caused by Explosives ..	..	1	3	..	..	..	4
" " Falls of Ground	5	1	6	..	8	1	21
" " Falling down Shafts, etc.	1	2	2	1	6	1	13
Other Accidents	3	..	5	1	7	..	16
2. **Above Ground—**							
Accidents caused by Machinery in Motion	2	..	..	..	3	..	5
Other Accidents	1	..	..	..	2	3	6
3 **Accidents in Batteries, Ore-dressing, Smelting and other Metallurgical Works, etc.**	1	1	2	3	2	..	9
(*b*) COAL MINES.							
1. **Below Ground—**							
Accidents caused by Mine Explosions (Fire Damp, etc.)	..	..	..	..	..	..	..
Accidents caused by Explosives (Dynamite, etc.)	..	..	2	..	..	..	2
Accidents caused by Falls of Earth	6	..	..	..	1	..	7
Other Accidents	4	2	..	..	..	..	6
2. **Above Ground—**							
Accidents caused by Machinery in Motion	..	..	..	..	..	..	..
Other Accidents	1	1	1	..	1	..	4
TOTAL	24	8	21	5	30	5	93

* The figures relating to mining accidents do not in all cases correspond with those published by the Mines Departments of the various States, the discrepancies being due partly to the fact that accidents occurring in certain metallurgical works are not included in the figures issued by the Mines Departments, and partly to the fact that there is apparently lack of uniformity in the nature of the non-fatal accidents reported to, and by, the various authorities.

B.—Non-fatal Accidents Incapacitating for over 14 Days.

Cause of Accident.	* N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	* C'wlth.
(*a*) METALLIFEROUS MINES.							
1. **Below Ground—**							
Accidents caused by Explosives ..	..	1	2	1	12	1	17
" " Falls of Ground	..	3	11	3	58	6	81
" " Falling Down Shafts, etc.	..	2	..	..	11	2	15
Other Accidents	..	1	126	1	320	12	460
2. **Above Ground—**							
Accidents caused by Machinery in Motion	..	..	..	..	21	5	26
Other Accidents	..	..	3	..	92	21	116
3. **Accidents in Batteries, Ore-dressing, Smelting and other Metallurgical Works, etc.**	6	1	130	233	48	..	418
(*b*) COAL MINES.							
1. **Below Ground—**							
Accidents caused by Mine Explosions (Fire Damp, etc.)	..	..	1	..	1	..	2
Accidents caused by Explosives (Dynamite, etc.)	..	..	5	..	..	..	5
Accidents caused by Falls of Earth	..	6	..	..	18	1	25
Other Accidents	..	1	7	..	98	1	107
2. **Above Ground—**							
Accidents caused by Machinery in Motion	..	..	1	..	..	..	1
Other Accidents	..	1	3	..	23	..	27
TOTAL	6	16	289	238	702	49	1,300

* Exclusive of New South Wales.

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It will be seen from the foregoing tables that in 1918, 74 of the fatal, and †1127 of the non-fatal accidents occurred in connection with coal mining.

The number of accidents occurring below ground in 1918 was considerably larger than that occurring above ground, the respective figures for the year being 69 fatal and †706 non-fatal accidents below ground, and 24 fatal and †588 non-fatal accidents above ground.

7. **Number of Accidents per 1000 Persons Employed in Mining.**—In the following table particulars are given for the year 1917 of the number of persons who met with accidents per 1000 persons employed. Comparative figures for 1918 are not yet available.

Number of Fatal and Non-fatal Accidents per 1000 Persons Engaged in Mining, 1917.

STATE.	FATAL ACCIDENTS.		NON-FATAL ACCIDENTS.		ALL ACCIDENTS.	
	Metal Mining.	Coal Mining.	Metal Mining.	Coal Mining.	Fatal.	Non-fatal.
New South Wales ..	0.78	0.63	*	*	0.70	*
Victoria	0.63	1.93	1.09	5.14	0.88	1.89
Queensland	2.43	1.35	21.60	7.63	2.15	18.06
South Australia	0.71	..	1.79	..	0.71	1.79
Western Australia ...	2.75	3.50	54.28	245.18	2.79	65.13
Tasmania	1.29	..	12.12	11.56	1.23	12.10
COMMONWEALTH ..	1.46	0.87	† 24.55	†36.87	1.26	† 26.21

* Not available. † Exclusive of New South Wales.

SECTION XVII.—INTERNATIONAL LABOUR STATISTICS.

1. **General.**—The particulars given in this section embody the most recent information available for various countries in regard to (i.) Unemployment; (ii.) Industrial Disputes; and (iii.) Price Indexes. As already explained in previous Labour Reports, any comparisons which can be made between the various countries are subject to limitations, details of which are given in Labour Report No. 8, pages 151 to 154.

2. **Unemployment.**—In the following table is shewn the percentage of numbers of Trade Unionists returned as unemployed for the years 1910 to 1917:—

Percentage of Numbers of Trade Unionists Returned as Unemployed, 1910 to 1917.

Country.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Australia ..	**5.6**	**4.7**	**5.5**	**5.3**	**11.0**	**6.8**	**6.7**	**7.4**
Austria ..	§	§	§	§	8.1	4.4	§	§
Belgium ..	2.0	1.9	1.8	2.7	§	§	§	§
Denmark ..	11.3	9.2	7.6	7.5	9.9	7.7	4.8	9.1
France ..	6.5	6.2	6.1	5.2	§	§	§	§
Germany* ..	1.9	1.9	2.0	2.9	7.2	3.2	2.2	1.0
Great Britain*	4.7	3.0	3.2	2.1	3.3	1.1	0.4	0.7
Holland ..	§	2.5	4.0	5.0	13.8	12.0	5.8	6.5
Norway ..	2.9	1.9	1.3	1.6	2.0	2.5	0.9	1.1
Sweden ..	§	§	5.4	4.5	6.7	7.8	4.2	4.0
U.S.A., N. York†	16.9	21.9	18.6	20.8	25.6	30.7	18.7	§
U.S.A. Massachusetts	5.5	5.3	4.5	5.8	9.9	7.0	2.4	3.3

* Returns relate solely to unions paying unemployed benefit. † Year ending 30th June. § Not available.

NOTE.—*Although these percentages are not directly comparable (for reasons already indicated), as between the several countries, the variations are informative.*

3. **Industrial Disputes.**—The statistics of trade disputes are summarised from reports issued by Government Labour Bureaux, but there is a considerable difference in the methods adopted for the collection of these statistics, and particulars of such differences are given in Labour Report No. 8, page 152.

The following table gives the number of disputes and the number of workers affected in various countries for the years 1910 to 1917:—

Industrial Disputes in various Countries, 1910 to 1917.

(NOTE.—*For reasons indicated in Labour Report No.* 8, *page* 152, *direct comparisons between the several Countries cannot be made.*)

Country.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Number of Disputes.								
Australia ..	§	§	§	208	337	358	508	444
Argentine ..	298	102	99	95	64	65	80	§
Austria ..	676	728	801	461	278	40	§	§
Belgium ..	110	162	206	167	§	§	§	§
Canada ..	84	99	150	113	44	43	75	148
Denmark ..	71	52	64	74	44	43	75	§
Finland ..	54	51	59	70	37	0	0	275
France ..	1,502	1,471	1,116	1,073	672	98	314	§
Germany ..	3,228	2,798	2,834	2,464	1,223	141	240	§
United Kingdom	531	903	857	1,497	999	706	581	688
Holland ..	146	217	283	427	271	268	377	335
Italy	1,118	1,274	1,116	929	740	506	480	§
Spain	269	338	311	201	262	226	262	322
Sweden ..	76	98	116	119	115	80	227	459
New York* ..	250	215	184	268	124	§	§	†234
United States	§	§	§	§	1,204	1,593	3,265	§
Number of Workers Affected (,000 omitted).								
Australia ..	§	§	§	50	71	81	171	174
Argentine ..	19	28	9	24	14	12	24	136
Austria ..	75	128	145	62	40	8	§	§
Belgium ..	27	57	77	29	§	§	§	§
Canada ..	21	30	41	40	9	9	21	48
Denmark ..	2	29	4	9	3	2	14	§
Finland ..	4	6	11	6	6	0	0	83
France.. ..	281	231	268	220	161	19	41	§
Germany ..	370	356	481	311	95	13	124	§
United Kingdom	515	962	1,463	689	449	453	284	821
Holland ..	4	20	22	30	15	13	18	34
Italy	199	403	253	486	145	115	86	§
Spain	36	22	23	84	80	56	75	78
Sweden ..	4	21	10	10	14	5	21	46
New York* ..	190	84	57	304	61	§	§	†153

* Year ending 30th Sept. † Year ending 30th June. § Not available.

4. Price Index-Numbers in various Countries.—(i.) *Wholesale Prices.*—In the following table are shewn the wholesale price index-numbers for various countries for the years 1901 to 1918, computed with the year 1911 as base (= 1000). It must be understood that the figures do not shew the relative prices in the different countries, but merely exhibit the fluctuations in price-level in each country separately.

Index-Numbers of Wholesale Prices in Australia and other Countries, 1901 to 1918, with Prices in 1911 as Base (= 1000).

Particulars.	United Kingdom.			France.	Holland.	United States.	Canada.	Japan.	Australia
Index No.	Board of Trade.	Economist.	Sauerbeck and Statist.	Statistique Generale.	Contract Prices.	Bureau of Labour.	Department of Labour.	Yokohama Chamber of Commerce.	Bureau of Census and Statistics.
No. of Items.	45	22	39	45	9	236	271	47	92
1901 ..	883	891	875	841	850	833	840	*	974
1902 ..	881	874	862	821	829	840	856	*	1,051
1903 ..	886	904	862	845	827	840	867	*	1,049
1904 ..	898	856	875	833	911	906	874	844	890
1905 ..	892	887	900	870	900	840	893	919	910
1906 ..	921	952	987	917	912	927	942	914	948
1907 ..	969	1,047	1,000	963	879	989	991	990	1,021
1908 ..	941	921	912	891	954	958	949	969	1,115
1909 ..	952	952	925	896	947	1,021	956	1,018	993
1910 ..	995	978	975	958	957	1,052	975	952	1,000
1911 ..	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
1912 ..	1,050	1,067	1,062	1,035	980	1,062	1,055	1,052	1,170
1913 ..	1,065	1,052	1,062	1,021	969	1,052	1,064	1,052	1,088
1914 ..	1,071	1,045	1,062	1,042	926	1,042	1,068	986	1,149
1915 ..	1,315	1,328	1,350	1,428	1,161	1,052	1,162	941	1,604
1916 ..	1,705	1,724	1,700	1,922	1,345	1,302	1,429	961	1,504
1917 ..	2,220	2,158	2,175	2,671	1,597	1,830	1,860	1,240	1,662
1918 ..	2,467	2,380	2,401	..	..	*2,037	2,184	..	1,934

* First 10 months.

Since 1901, there has been a marked increase in prices of those countries for which particulars are available for 1918, the increase compared with 1901 is greatest in the United Kingdom (174 per cent.), followed by Canada (160 per cent.), the United States (145 per cent.), and Australia (99 per cent.).

In the following table the index-numbers for the month of July (the month previous to the outbreak of war) in the years 1914 to 1918 are given for the United Kingdom, Canada, the United States, and Australia, the prices in July, 1914, being taken as base (= 1000).

Index-Numbers of Wholesale Prices in Australia and other Countries, July 1914 and July 1918, with Prices in July 1914 as Base (=1,000).

Country.	Source of Information.	No. of Commodities.	INDEX-NUMBERS.	
			July 1914.	July 1918.
United Kingdom ..	Economist.	44	1,000	2,389
	Statist.	45	1,000	2,343
Canada	Department of Labour.	271	1,000	2,110
United States ..	Bureau of Labour.	26	1,000	2,000
Australia	Bureau of Census and Statistics.	92	1,000	1,700

It will be seen that the largest increase in wholesale prices occurred in the United Kingdom, followed in the order named by Canada, the United States, and Australia.

(ii.) *Retail Prices.*—The index-numbers of retail prices for various countries, from 1901 to 1918, are shewn in the following table, but as is the case with the wholesale price-index numbers, they only shew the fluctuations in prices in each individual country, and are not comparable horizontally.

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Index-Numbers of Retail Prices in Australia and other Countries, 1901 to 1918, with Prices in 1911 as Base (= 1000).

Particulars.	United Kingdom.	Canada.	United States.	Australia.	New Zealand.
Index No.	Board of Trade.	Department of Labour.	Bureau of Labour.	Bureau of Census and Statistics.	Government Statistician.
No. of Items.	21	29	15	46	*
1901	918	*	758	880	*
1902	923	*	801	929	*
1903	940	*	802	910	*
1904	937	*	813	858	*
1905	940	768	814	901	*
1906	932	*	841	902	*
1907	961	*	880	897	*
1908	983	*	910	951	1,011
1909	984	*	959	948	989
1910	1,000	973	1,008	970	1,008
1911	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
1912	1,046	1,027	1,067	1,101	1,035
1913	1,050	1,027	1,089	1,104	1,055
1914	1,068	1,083	1,106	1,140	1,117
1915	1,359	1,101	1,097	1,278	1,217
1916	1,653	1,231	1,214	1,324	1,290
1917	2,056	1,599	1,561	1,318	1,384
1918	2,238	1,819	†1,783	1,362	1,513

* Not available. † 10 months.

There was a general rise in retail prices in 1918; in the United Kingdom prices were 8.9 per cent; in Australia 3.3 per cent; in Canada 13.8 per cent.; in the United States 14.2 per cent.; and in New Zealand 9.3 per cent., higher in 1918 than in 1917.

In the following table the retail index-numbers for the months of July 1914 and July 1918 in various countries are given, taking the prices in July 1914 as base (=1000). These figures relate to foodstuffs only, and are not comparable, as the list of commodities varies in each country. In nearly every case the index-numbers are based on weighted averages.

Index-Numbers of Retail Prices in Australia and other Countries, July 1914 and July 1918, with Prices in July 1914 as Base (= 1000).

Country.	No. of Towns or Cities.	No. of Commodities.	INDEX-NUMBERS.	
			July 1914.	July 1918.
Australia	30	46†	1,000	1,308
Canada	60	29	1,000	1,752
Denmark	Copenhagen	17	1,000	1,870
France	Paris	..	1,000	2,060
Holland	Amsterdam	..	1,000	1,760
India	Calcutta	..	1,000	1,310
Italy	41	7	1,000	2,530
New Zealand ..	25	59	1,000	1,393
*Norway	21	33	1,000	2,790
South Africa ..	..	..	1,000	1,320
Spain	Barcelona	..	1,000	1,510
Sweden	44	31	1,000	2,680
Switzerland	All Co-operative Societies	31	1,000	2,220
United Kingdom ..	600	21	1,000	2,100
United States ..	45	17	1,000	1,637

*** Unweighted average, including other necessaries. † Including a few commodities not foodstuffs.**

APPENDIX I.

Price-Indexes, their Nature and Limitations, the Technique of Computing them, and their Application in Ascertaining the Purchasing-Power of Money.

Prepared under instructions from the Minister of State
for Home and Territories.

BY

G. H. KNIBBS, C.M.G.

Honorary Fellow of the Royal Statistical Society, Honorary
Member of the American Statistical Association, and of
the Société de Statistique de Paris, Membre de l'Institut
International de Statisque, etc., etc., etc.

Commonwealth Statistician.

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PART I.

INTRODUCTORY REMARKS ON PRICE-INDEXES.

SYNOPSIS.

1. The significance of price-indexes.
2. Necessity of accurate conceptions regarding the nature of a price-index.
3. Aim of the present article.
4. Complexities may be avoided.
5. Difference between price-ratios and price-indexes.
6. Popular view of relations between price-ratios and price-indexes.
7. Purpose of price-indexes must be considered.
8. Exposition of nature of technique.
9. Differences between household-budgets and composite-units.

1. **The significance of price-indexes.**—Changes in the price of commodities have, of course, always been of interest to students of economics. They mark the variation of the relation between one commodity, viz., gold, and all other commodities which have an exchange value, and consequently indirectly shew the exchange relationships between them all. Fluctuations of price, therefore, have always been of considerable academic interest. Owing to certain recent economic tendencies, these fluctuations have become of still greater moment, owing to the increased importance of certain questions, among which may be mentioned that concerning the payment for services rendered by wages of equivalent purchasing-power, *i.e.*, by a rate of wage which has regard to the commodity-value thereof. Owing to this, the necessity of accurately ascertaining the purchasing-power of money (and therefore of wages) has been accentuated, and in the same connection so also have various other questions concerning the system of exchange-value relations between money and commodities generally. If we use the expression "the *purchasing-power of money*" to denote some general relation between the unit of currency—say £1 sterling in English communities—and the satisfaction, both as to commodities and services required, of human needs, it is obvious that a clear understanding of what is really meant by this term is a matter of no small moment.

A means, widely adopted, for the purpose of measuring variations in the cost of commodities and services is to use *price-indexes*. A "price-index" is the reciprocal of an index of purchasing-power and, as explained hereinafter, shews the increase or decrease at different periods in the cost of a definite group of commodities and services. An index of purchasing-power on the other hand would shew the variation in the purchasing-power of any particular money-unit.

How we are to measure or estimate these, and in what way can a "price-index" disclose the variations of purchasing-power are matters of common concern. "How can price-indexes be accurately calculated?"; "What are the limitations affecting any attempt to determine them or purchasing-power accurately?" and "How should price-indexes be used for equalising wages, so as to make their commodity and service-purchasing efficiency constant?"—if so desired or if possible—are self-evidently matters which must engage the attention of all interested in the trend of human affairs.

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Whether rightly or wrongly, a dictum which at the present time is somewhat insistently asserted, is that wages should be estimated, not by mere expression in the form of currency, but by the quantity of any desired commodities and services which they will purchase.

As is shewn by the large number of treatises dealing with questions of this nature, the problem is not quite so simple and obvious as it might at first sight appear.

2. **Necessity of accurate conceptions regarding the nature of a price-index.**—The truth of this statement is evidenced by the doctrines regarding price-indexes to be found in certain economic treatises, and also by the fact that price-indexes are not unfrequently so ill-founded as to be quite misleading. For this reason an exposition of the whole matter of a somewhat brief and technical nature (at least in so far as the appendix was concerned), was given by me in Labour Report No. 1 of the Labour and Industrial Branch of the Commonwealth Bureau of Census and Statistics, published 5th December, 1912, pp. 1-96, with appendices, pp. i. to lxii. Experience has shewn, however, that this exposition has often been misunderstood and misquoted. This, and the fact that the algebraical treatment has sometimes been misdescribed and misapplied, have disclosed the desirability of setting out the whole of the matter, in a more elementary form, and this has been done in the following pages.

Those who desire to know the detail of various methods that have been used for obtaining price-indexes are referred to the Report above mentioned, and to the bibliography therein contained, particularly such works as Professor Irving Fisher's "Purchasing Power of Money" (New York, 1911), and the "Measurement of General Value," by C. M. Walsh (New York, 1901).

3. **Aim of the present article.**—An endeavour has been made here, to set forth the essentials of the problem and of its solution, with sufficient illustration to enable anyone, who, being qualified to form a competent opinion, will give the matter serious attention. Any attentive student can thoroughly understand the question at issue; can realise what is ideally required, and can appreciate the limitations of the practical situation in regard to ascertaining price-indexes for different localities at one period of time, and for the same locality at different periods. It ought to be added, however, that the matter is not likely to be understood without close attention, and that an erroneous point of view may make its apprehension by no means easy.

4. **Complexities may be avoided.**—It is shewn herein that certain complexities introduced into the subject by various political economists, have only beclouded what is really a very clear and definite issue. It happens that the simple and very elementary notion of the "man in the street" as to what is necessary is, in this case, correct, viz., that an unequivocal determination must be based upon the series of commodities used, the quantities being so taken as to be *proportionate to actual usage.* Following the suggestion of Professor Irving Fisher, I have called such a series a "composite-unit," and it is on the cost of this unit or the aggregate expenditure thereon at different times, or at different places, that a definite idea can be formed of the changing value of money in relation to commodities. It may be mentioned that the British Board of Trade and the American Bureau of Labour and Statistics have, since the publication of the original report, adopted the method which I have called herein "the method of aggregate expenditure," that is, the measurement of the changing value of currency by comparisons of the cost of the composite-unit.[*]

---

[*] Mr. Wesley C. Mitchell, in his article in the "Bulletin of the U.S. Bureau of Labour Statistics," No. 173, July 1915, p. 35, says:—

"Still later (1912) the method practiced by Dun was adopted by the Commonwealth Statistician of Australia as the basis of his official series. However, after he had calculated the aggregate expenditure of Australians upon this bill of goods in terms of pounds sterling, he threw these pecuniary sums back into the form of relative numbers on the scale of 1000."

Dun's review referred to was dated 1901. Dun's method was certainly right in principle, in that the price was multiplied by the quantity supposed to be consumed in the course of a year by an average individual.

No exposition appears to have been given by Dun of the justification of this method, nor was its identity with the price-ratio method, when geometric means of the relative expenditures are made the basis of combination, shewn. But this was demanded by the then existing state of the theory of price-indexes, and the aggregate-cost method was adopted by me only after establishing the fact that *its merits are unique*, inasmuch as it is not only perfectly definite in its significance, but also gives, in the most simple way, a result always identical in practical cases with that properly deduced from price-ratios, viz., by taking the weighted geometric means on a mean commodity-basis for the years compared, the weights also being the means of the relative expenditures on the commodities for the compared years.

The remarks on p. 101 of the Labor Bulletin (above quoted) regarding Dun's and Gibson's index-numbers seem to imply that the weighting-method is somewhat loose, and it would appear also to be based upon value-ratios.

5. **Difference between price-ratios and price-indexes.**—It is convenient to call the ratio of the price of any individual commodity at one time, to the price at any other time, the *price-ratio* of the latter date as compared with the former, and to reserve the term "*price-index*" for the price-ratio for the same type of comparison applied not to single commodities, but to special groups of commodities, the individual items of the group being combined in some definite way. If, taking all facts of usage into account, the prices of all commodities were in the same ratio, this ratio would also be the price-index for the whole, and the items could in this case be grouped in any way whatsoever, that is, the price-index would be independent of the relative quantities of each. This perhaps throws some light upon the *popular opinion that the price-ratio or percentage of rise and fall in price is the main fact with which we have to deal*, a view which is correct, however, only if all qualifying circumstances are fully taken into account.

When the price-ratios are different for different commodities, it is self-evident that the extent of their usage has a profound influence on the result, for example, changes in the price of caviare and champagne are practically of no general importance compared with the change in the prices of bread, meat, butter, milk, etc., for the reason (statistically) that the aggregate quantities used are relatively negligible and thus have no sensible influence upon the general result. We may say, therefore, that relatively they have no *weight*. In proportion as the relative usage is considerable, so must the "weight" increase which would be attributed. Thus a system of weights must be applied to the price-ratios of the various commodities, and their effect thus taken into account in any general determination.

6. **Popular view of relations between price-ratios and price-indexes.**—In a loose kind of way it is popularly felt that *the relative importance of commodities must vary with the proportion of the expenditure thereon.* From one point of view, this is true. In so far, however, as the commodities are necessaries of life, it may be that the actual quantities used determine their relative importance, or yet again, that both elements, viz., expenditure and quantity, must sometimes be taken into account. In regard to this latter observation it may also be noticed that in all cases where the amount available for the purchase of what one requires is limited, the variations of expenditure may involve re-adjustments among the quantities of the items, by the substitutions of cheaper commodities, or even their complete omission.

In order to illustrate the point referred to, the results of a budget inquiry, in Australia, made in November, 1913, may be taken. This inquiry shewed that on the whole the average weekly expenditure on various items was as shewn in the table hereunder in the second columns, and these, expressed as percentages, are given also in the third columns.

Budget Inquiry, November, 1913. Australia.

Item.	Amount £ s. d	% on total.	Item.	Am'nt s. d.	% on total.	Item.	Amn't s. d.	% on total.
Housing ..	0 9 1	12.36	Tobacco ..	0 11	1.25	Medical ..	1 6	2.04
Food	1 10 3	41.16	Alcoholic beverages	0 10	1.13	Rates & taxes	0 10	1.13
Clothing ..	0 10 0	13.61	Fares	1 10	2.49	Sports & amusements ..	1 1	1.47
Fuel and light	0 3 4	4.53	Insurance ..	2 0	2.72	Charity ..	0 11	1.25
Soap, starch, etc. ..	0 0 10	1.13	Contributions to benefit societies	1 3	1.70	Wages	0 8	0.91
Other household requisites ..	0 1 2	1.59	Education fees	0 8	0.91	Miscellaneous ..	6 4	8.62

Aggregate amount £3 13s. 6d. = 100.00%

This represents the average usage of 392 families scattered over Australia. In the capital cities and larger towns the expenditure on housing is greater than 12 per cent., and may easily reach 20 per cent., consequently the percentage presented by the items has to be readjusted. This example is instructive because it shews that the *essential* feature is really the quantitative one, in this case at any rate. Moreover, when one is dealing with such a question as the minimum "living-wage," it is clear that—in so far as it is an economic possibility—certain of the items are essential to normal healthy life, for example, food, housing and clothing, while other items, however agreeable or even desirable, are unessential—*e.g.*, alcoholic beverages, sports and amusements, etc.

7. **Purpose of price-indexes must be considered.**—These considerations disclose the fact that the object or purpose of a price-index may govern the principles which should guide us in the technique of its determination. We shall shew that definite composite-units of an appropriate character are the only proper bases for exact determinations, though price-ratios and price-indexes, based upon group results, may also be used for more indefinite and less accurate determinations.

It is no longer sufficient to regard a price-index as representing always some general relation between the unit of money and commodities. We shall shew, for example, that although there may be a general price-index representing the relationship between money and all other commodities, this is significant only when their quantitative relations *inter se* are quite definite. Such a price-index, however, may possibly differ sensibly from one appropriate for ascertaining the varying value of the unit of money in regard, say, to the ordinary necessaries of life (*e.g.*, a price-index suitable for analysing questions relating to the cost of living). Similarly it will differ from a price-index, the purpose of which is to obtain an idea of the relative quantities of imports or of exports from a record of their values. This must be appropriate to its purpose, and is not always quite satisfactory if it be merely the *general price-index.* Coming down to small communities and individuals, or to various classes within a community, it may be said that there is a price-index appropriate to each, in regard, for example, to their expenditures upon living. Statistical results, however, in order to have any generality of application, must deal with hypothetical " average individuals" or " average communities" as the case may be.

It will be shewn that for any specific purpose whatever a price-index can be quite accurately determined, and that the prolix discussion on methods of ascertaining price-indexes and upon questions of weighting price-ratios in order to obtain them, owe their existence to an inappropriate envisaging of the question.

8. **Exposition of the nature of the technique.**—In Parts II. and III. hereinafter the nature of price-indexes is exhibited, and the appropriate methods of computing them are shewn. In order to exhibit clearly the essential nature of these, the technique of what may be called " extreme cases" is sometimes taken by way of illustration. This has been done because the real significance of particular methods is thus more clearly exhibited. In this way, carefully-selected arithmetical tests become more satisfactory to many than general demonstrations, the nature of which can be followed only by algebraists. Thus—to a certain extent—the latter are rendered unnecessary. Those interested in a general demonstration are referred to Labour Report No. 1 on " Prices, Price-indexes, Cost of Living in Australia," December, 1912. It may here be mentioned that much depends on securing a proper view-point of the whole question (as the well-known controversy between Jevons and Laspeyres shewed : it will suffice here to state that had the question been set out clearly, all differences between these two authorities would have disappeared, as was shewn in the Appendix to the Report mentioned, pp. xxxv. and xxxvi.).

Certain methods, particularly the method of determining price-indexes from price-ratios, appear, on a superficial view, to have much to commend them, because of their apparent generality. This, however, is only in appearance, and when really analysed the apparent merit turns out to be illusory. I shall endeavour to make clear in Parts II. and III. that it is possible to accurately ascertain price-indexes, if the data are available; that they will then be perfectly definite in their meaning ; the degree of their applicability can be made manifest ; and they can be made quite exact, if only true prices can be ascertained. On the other hand, the method of computing from price-ratios is tedious, and as ordinarily carried out is inexact, while the exact significance of the result so obtained is by no means self-evident.

In Part IV. will be set out such conclusions as have been established in Parts II., and III. In dealing with these questions, the arithmetical examples and method of treatment generally have, as far as possible, been made independent of algebraic exposition.

9. **Differences between household-budgets and composite-units.**—These preliminary observations may be closed by adverting to a wide-spread misconception of the essential character of the method of ascertaining a price-index, in which connection it may be mentioned that the part played by household-budgets is misunderstood.

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Public comments from time to time have shewn this. The results of budget inquiries as to the actual cost of living, and the application of the results of investigations to ascertain the fluctuations in the purchasing-power of money are not interdependent. The results of household-budgets may, of course, be used for the purpose of deciding upon the commodities and mass-units of a composite-unit to be employed for the measurement of variations in the purchasing-power of money. It is one of the two possible methods of doing this. They are, however, not essential. The composite-unit may also be determined from general usage; that is, from statistics of consumption. This question is discussed in Part III., Section 6.

The percentage of expenditure upon the different items in a household-budget has often been given as an aid to grasping its significance, and this has unquestionably given rise to an impression—by no means a correct one—that, inasmuch as change in prices disturbs the relative percentages, it necessarily vitiates the deduced price-indexes. This view loses sight of the fact, first, that composite-units may or may not be independent of budget-returns, and that, whatever the basis used may be, the results are sensibly the same, provided the basis is well determined. We have shewn in Labour Report No. 1, and shall later repeat the demonstration, that the basis for the measurement of the fluctuations in the purchasing-power of money is not dependent upon meticulous accuracy as regards a budget inquiry or other research for ascertaining appropriate mass-units for the items of the composite-unit. Though minor deviations of actual usage do not sensibly affect the result, this unit must remain constant. The notion that variations of the relative proportions of expenditure invalidate price-indexes arises only from misconception in regard to the whole matter. The applicability of price-indexes to questions of cost of living is independent of minor deviations therein; in any case the purchasing-power of money cannot be estimated on any other than a constant standard. When the same basis is applied on two occasions the results are sensibly identical, even if the differences of the regime are considerable. But if we use one composite-unit on one occasion and another on the next, we introduce another element, viz., *change of standard-of-living*. There can be no middle course; either we may base the estimate of the cost of living at a particular time upon the actual budgets *at the time*, or we may apply a correction, based upon the fluctuating purchasing-power of money, to a budget ascertained at a particular time, finding in this way the equivalent of the original. That is, we may deduce the cost of living from a previous budget inquiry, or from some other mode of ascertaining what is required in normal living, or we may—on the other hand—ascertain directly what people are actually spending upon living. The two questions are distinct, and have no general relation, one with the other.

The ascertaining of the purchasing-power of money is of wide significance, and virtually presupposes that every person is free to modify his regimen as he pleases, but it is not based upon the ratio of expenditure—an ever-changing quantity—among the particular items in the household budget to the total expenditure thereon. It purports to shew what the general change in the purchasing-power of money is, not by a vain attempt to include all commodities in proportion to their usage, but by restricting the investigation to *identifiable commodities*, so that the result will not be vitiated by uncertain elements that are liable to introduce variations consequent, not upon the change of purchasing-power, but upon change of regimen; that is, change in the *standard* of living.

All attempts to deal with variations in usage, item by item, are open to the criticism that there are actually as many price-indexes as there are individuals, since the usage of one individual is not identical with that of another. The matter must be considered in its generality; thus it is not to the point to shew that any minor item, especially one not definitely identifiable, has changed its price in some other ratio than that indicated by the price-index of the composite unit.

Any practical method of changing wages so as to make the purchasing-power equivalent should of course meet the general case. Instead of stressing an apparent change in any particular item of expenditure as a reason for departing from a well-determined general price-index, it is better to redetermine the actual cost of living from time to time by, say, the household-budget method, and to maintain, for *general* purposes of comparison, price-indexes based upon the composite-unit method. The whole matter may be set forth in the following way.

When the question is the determination of the actual cost of living, it is essential that an inquiry be made as to the aggregate expenditure upon all items. This, however, having been ascertained for any particular date, price-indexes based upon an appropriate composite-unit may be used for finding its varying money-equivalent, until such a time as the necessity for a further similar budget-inquiry is indicated.

PART II.

THE PURCHASING-POWER OF MONEY AND THE NATURE OF PRICES-INDEXES.

SYNOPSIS.

1. General.
2. The composite-unit as a basis for measuring changes in the purchasing-power of money.
3. Reciprocal comparability of price-indexes at different dates.
4. Accuracy to be expected.
5. Price-indexes for an individual.
6. Effect of changes in the composite-unit.
7. Meaning of price-indexes for groups of individuals.
8. Relative, not absolute, amounts necessary to constitute the composite-unit.
9. Comparability and non-comparability of individuals and communities.
10. Price-indexes for a class, a community, a State and an Empire.
11. Small effect of considerable differences in the composite-unit.
12. The relation between price and the composite-unit.
13. Criteria of constancy in the standards of quality of commodities.
14. Absolute maintenance and quasi-continuity of standards.
15. Nominally constant standards.
16. Composite unit for special purposes.
17. Secular changes in the purchasing-power of money.
18. Mode of ensuring pseudo-continuity.
19. The system of relations between money and commodities.
20. The effect of abnormal times upon price-indexes.
21. Effect of seasonal fluctuations in consumption of commodities.
22. For many questions expenditure is not the measure of importance of commodities.
23. The deduction of purchasing-power from the weighted ratios of rises in price.
24. Recapitulation of the nature of the problem of ascertaining the purchasing-power of money.

1. **General.**—As Prof. Edgeworth has observed (Econ. Journ., June 18, 1918, p. 176), careful measurements of change in the purchasing-power of money will be (and are) required for the adjustment of wages and other payments. It is proposed here to indicate the principles underlying such measurements, and to show that the adoption of a very simple method is both desirable and eminently satisfactory. The essential features of the method are such as to admit of its being readily understood by "the man in the street." Notwithstanding its simplicity it has more to commend it than other methods which—under superficial examination—may apparently be of a more satisfactory character. This simple method of comparing the purchasing-power of money is by ascertaining the cost of a suitably chosen *composite-unit*, the constitution of which we shall later describe.

Before discussing this question it may be said that there is a valid foundation for the instinctive repugnance of mankind to over-subtle methods. The satisfactory solution of a difficulty is often reached, as it were, intuitively, though the complexity of a complete and fully outlined solution would be unintelligible to most, and difficult for any. Were it not so, practical action would often be paralysed or be too long postponed. It is an advantage, therefore, if the method adopted is readily apprehended.

There are three principal ways in which the economical significance of commodities to a community may be measured—

(i.) By the *quantities it uses* of them ;

(ii.) By the *amount it spends* upon them ;

(iii.) By their *utility*, from some particular point of view.

For the essentials of living, the first (or sometimes the third) is of the greatest importance ; for luxuries, the second. Thus the *quantities* of bread, meat, sugar, butter, or fat, etc., are of fundamental importance for healthy life ; that is, they are essentials of existence.

On the other hand, the quantities of gems, jewellery, exquisitely worked fabrics, etc., are relatively of no moment as regards mere existence ; the desire to possess them, and the amount they cost, are the bases of their economic significance, although they are really non-essential to existence.

We have stated that the importance of commodities may also be estimated on other bases, among which one might mention their *food-value*, for example.* This is done by classifying them according to their content in proteins (nitrogenous flesh-forming constituents), fats, and carbohydrates (or sugars and similar substances), and the energy (number of calories) represented by these, compared with the normal requirements of the human body. It is necessary, also, to take account of the suitability (digestibility, etc.) of the food, and of the fact that it contains other constituents (vitamines, etc.), which though apparently negligible in quantity, appear to be essential to proper nutrition.

It may at any time become necessary, through famine or other disaster, to use substitutes for usual foods, in which case the basis of estimation may include other than the ordinary element of price.

Postponing for the present any consideration of this last kind, we note that between commodities of the first two types referred to there are large numbers of commodities that possess intermediate characters, so that in the most general consideration of the nature of commodities we must attribute to them at least two important though opposed characters, viz., necessity (s) and non-necessity or unessentiality (u). For example, bread, etc., is a necessity ; diamonds are not. If we express these two characters relatively (as ratios to unity) their sum is unity ; that is, we must have—

(1)......$s + u = 1$.

It is well to remember that even in the same class, individual commodities may possess these attributes or characters in different degrees. For example, in those grades of clothing which are a necessity even to the humblest or most thrifty, s is necessarily nearly unity. On the other hand u is nearly unity in the case of expensive silks, furs, etc., for they are mainly luxuries. To define more clearly what is meant, let us assume that an overcoat is a necessity, and that there are three grades, the lowest one possible at £3, one at £12, and one at £100. Let us assume also that the one at £12 will be serviceable twice as long as that at £3, and that the one at £100 will be serviceable four times as long. We shall then have, in the first case, $s + u \equiv 1 + 0$. In the second case (disregarding interest questions) the necessity-value, taking account of the duration of its serviceableness, is $2 \times$ £3 = £6, and consequently its luxury or unessential element is also £6 ; that is, we shall have $s' + u' \equiv 0.5 + 0.5$. Similarly in the third case we shall have for the necessity-value $4 \times$ £3 = £12, and consequently the unessential element £88 ; hence $s'' + u'' \equiv 0.12 + 0.88$. Hence if we are considering the variation in the purchasing-power (*a*) for essentials (*b*) for unessentials, or (*c*) for both combined, we have three different systems of values to take into account. Assuming that the overcoat at £3 lasts two years, we see, for example, that, for the *essentials* of civilised existence, the value per unit of time (1 year, say) is £1 10s. *in each case.* We observe, in passing, that variations in price ordinarily affect these elements differently, so that the ratio of the two elements (s/u) is not at any rate *quite* constant when prices change. It is not proposed to discuss the measurement of the purchasing-power of money in regard to mere esteem-values or unessential values.

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* This might be regarded as a case of utility, (iii.) above.

We notice, also, in regard to (i.) that we may make the basis of comparison (i.*a*) what people *must use* to maintain healthy and comfortable existence, *in so far as that is possible*, or (i.*b*) what they *do use*; and similarly the basis may be (ii.*a*) what they *must spend* and (ii.*b*) what they *do spend*.

It is also to be observed that we may make the basis of comparison, the usage either as regards quantity or as regards expenditure, that of (1) an individual, (2) a group or class of individuals, or (3) an entire community, a people, or an empire, etc. Which we do will depend upon the *purpose* we have in view. We shall consider later what would be obtained in the several cases, remarking, however, that—speaking generally—usage according to quantity is satisfactory, and according to expenditure unsatisfactory.

2. **The composite-unit as a basis for measuring changes in the purchasing-power of money.**—Suppose, to take a homely illustration, that a thrifty housewife made out a list of her regular marketing requirements, say a list of the things she must purchase each week. Against this list she jots down what she spends on each item from week to week, and totalling these, sees what her requirements cost in the aggregate. The *aggregate-expenditures* then are the cost, not of any one thing, but of the whole series of things, not of any one unit (1 loaf, 1 lb. of meat, or what not), but of a week's total requirements. These aggregates of expenditure would reveal to her exactly how far £1 would go. For example, if they cost at one time 60 shillings and at a later date 80 shillings, it is clear that £4 at the later date goes only as far in purchasing the series of things constantly required as £3 went formerly. The *index of this* is that for every £1 formerly required, £$1\frac{1}{3}$ are required at the later date. We could, of course, put it in another way, viz., that, in regard to her requirements, the *purchasing-power* of £1 of money has fallen to 15s., that is, in the ratio of $\frac{1}{3}$ to $\frac{1}{4}$, or of 1 to $\frac{3}{4}$. This system of estimating is the only one which is quite flawless in principle. It is based upon the *aggregates of expenditure for a fixed series of commodities.* Instead of expressing this index by the number $1\frac{1}{3}$, we could multiply it by 100 or 1000, etc., when we should have $133\frac{1}{3}$, $1333\frac{1}{3}$, etc.

Let us restate this: we consider first the case of *an individual* whose *usage is constant*, whose *wants* are of the same nature, and who has decided that he will not—under any circumstances—vary the quantity of the commodities which he requires. In such a case he could proceed as follows:—He could write out a list of commodities, the amount of each he used, and the price he had to pay. Then, multiplying the quantities by the prices paid and adding the various sums, the total amount would be the *aggregate expenditure* for his list. This list of commodities, with the quantities for each item, we can call the constant *composite unit*, and the amount paid for it the *cost* of the composite unit. Now for such a person the *purchasing-power of money would vary reciprocally as the cost of the composite-unit.* Symbolically this may be set out as follows:—

List of commodities in unit .. A , B , C , D , etc.

Quantity of commodities in unit .. q_a , q_b , q_c , qd , etc.

The composite-unit itself is :—$U = q_a$ of A $+ q_b$ of B $+ q_c$ of C $+ q_d$ of D $+$ etc.

Prices of items in unit (per unit-quantity) .. .. .. P_a , P_b , P_c , P_d , etc.

Cost of items in unit .. .. q_aP_a , q_bP_b , q_cP_c , q_dP_d , etc.

Cost of composite-unit, P (say) $= q_aP_a + q_bP_b + q_cP_c + q_dP_d +$ etc.

Suppose, then, that at some particular time, adopted as a date of reference, the cost of U is ascertained to be P_0, and at other dates was found to be P_1, P_2, etc. (it is immaterial, of course, whether in point of time these be earlier or later): then the *purchasing-power of money* will have *fallen* if P_1, P_2, etc., are *greater* than P_0: it takes a greater sum of money to purchase the composite-unit at dates 1 and 2 than it did at date 0. Suppose, for example, that at date 0 it cost £8 to purchase the composite-unit, and at dates 1 and 2 it cost £10 and £12 respectively; then clearly the purchasing power has fallen from—

$\frac{8}{8}$ to $\frac{8}{10}$ (at date 1) and to $\frac{8}{12}$ (at date 2), or from 1 to $\frac{4}{5}$, and then to $\frac{2}{3}$.

Or if, for convenience, we make the first 1000, we shall have the purchasing-power represented by the numbers—

At date 0, 1000 ; at date 1, 800 ; at date 2, 666⅔,

the last result being 667 if expressed to the nearest integer. These numbers 1000, 800, and 667, may be called *indexes of the purchasing-power of money.*

Suppose, however, that instead of so expressing these results, the comparison is made in the form which shews how much is necessary to purchase a definite quantity of the composite-unit, making the *price at date* 0, 1000 (*i.e.*, 1000 pence, shillings, pounds, or any other unit): the numbers would then be *price-indexes.* Thus we should have for the three cases above—

$\frac{8}{8} \times 1000$ (at date 0) $= 1000$; $\frac{10}{8} \times 1000$ (at date 1) $= 1250$; $\frac{12}{8} \times 1000$ (at date 2) $= 1500$.

These three numbers, 1000, 1250, and 1500, are the *price-indexes* for the dates in question. They shew how much money is needed to purchase a certain commodity-unit, and if this unit be well selected, they shew how the purchasing-power of money generally is rising or falling, viz., by the falling or rising respectively of the price-index. If the *cost* is rising the *purchasing-power* is of course falling.

3. **Reciprocal comparability of price-indexes for different dates.**—It is obviously desirable that we should be able readily to change our basic date. For example, if in the preceding instance we wished to make date 1 or date 2 the basic date, instead of date 0, our indexes should give us the same relations as before. We shall call the dates 0, 1 and 2, 1916, 1917, 1918 (for convenience). Thus we must have :—

Basis.		*Data.*		*Price-indexes.*
With 1916 as basic year	..	**£8** : £10 : £12	=	1000 : 1250 : 1500.
With 1917 as basic year	..	£8 : **£10** : £12	=	800 : 1000 : 1200.
With 1918 as basic year	..	£8 : £10 : **£12**	=	666⅔ : 833⅓ : 1000.

Let us suppose that we were given the price-indexes on the 1916 basis, and wished to change them so as to make 1918 the basic year : knowing nothing of the actual cost of the composite-unit from which the indexes were found, we have to find the values of :—

For 1916, $\frac{1000}{1500} \times 1000 = 666\frac{2}{3}$; for 1917, $\frac{1250}{1500} \times 1000 = 833\frac{1}{3}$;
for 1918, $\frac{1500}{1500} \times 1000 = 1000$.

that is, we get exactly the same results as if we have worked with the original figures $8 \div 12 \times 1000$; $10 \div 12 \times 1000$; $12 \div 12 \times 1000$. Simple and obvious as this may appear, it should be noted that price-indexes have not always been found in such a manner that they possess this property of being independent of the year selected as basis.

Not to burden the illustration unnecessarily, let us suppose, for example, that the composite-unit consisted only of three items, A, B and C, costing in 1916 respectively £1, £2 and £5, *i.e.*, £8 in all. One method of attaching importance to these is to weight them in the ratio which the expenditure on each bears to the total expenditure. Thus in 1916 the weights were the ratios ⅛, $\frac{2}{8}$ and ⅝. Having found their weights, it is usual to *weight* all future results accordingly. Thus if later (in 1917) they cost respectively £2, £2, and £6 (£10 in all) and still later (in 1918) they cost respectively £2 10s., £2 10s. and £7, the procedure in calculating the price-indexes is as follows :—

Commodity.	Price. 1916.	Price. 1917.	Price. 1918.	Price-Indexes of each Commodity (1916 as basic year).		
				A	B	C
A	1	2	2½	1000	2000	2500
B	2	2	2½	1000	1000	1250
C	5	6	7	1000	1200	1400
Total A+B+C	8	10	12	Simple mean 1000	1400	1716⅔

The simple means (for equal weights), viz., 1000, 1400, $1716\frac{2}{3}$ (instead of 1000, 1250 and 1500) are evidently enormously in error. When, however, instead of three, a large number of commodities is taken, this error relatively diminishes but does not disappear; it is rarely insensible, and then only fortuitously so. Suppose, then, that for any date subsequent to 1916, we weight the price-indexes for the individual items by multiplying them by the factors $\frac{1}{8}$, $\frac{2}{8}$ and $\frac{5}{8}$, the sum of which is unity. Then we have :—

$$\begin{array}{lrcl}
\text{For 1917—} & 2000 \times \frac{1}{8} & = & 250 \\
 & 1000 \times \frac{2}{8} & = & 250 \\
 & 1200 \times \frac{5}{8} & = & 750 \\
\hline
 & \text{Total (1)} & = & 1250
\end{array}
\qquad
\begin{array}{lrcl}
\text{For 1918—} & 2500 \times \frac{1}{8} & = & 312\frac{1}{2} \\
 & 1250 \times \frac{2}{8} & = & 312\frac{1}{2} \\
 & 1400 \times \frac{5}{8} & = & 875 \\
\hline
 & \text{Total (1)} & = & 1500
\end{array}$$

Similarly, if we adopt any other as the basic year, and base the weights upon the *relative expenditures of that year* (*e.g.*, 1917 = $\frac{2}{10}$, $\frac{2}{10}$ and $\frac{6}{10}$ or $\frac{1}{5}$, $\frac{1}{5}$ and $\frac{3}{5}$; or 1918, $\frac{5}{20}$, $\frac{5}{20}$ and $\frac{14}{20}$), we shall get the correct results *because* the process merely reproduces —in a very roundabout way—what we should have obtained by adding the cost of the items,* finding the ratios to the first, and multiplying by 1000.

It has been—strangely enough—imagined that the difficulty about relative quantities was disposed of by taking the mean of the price-indexes of a series of commodities, whereas in reality it was merely hidden. Thus the logic of the method was that by merely observing how prices changed (say from 1000 to 2000, to 2500, etc.) we might escape any detailed examination of the extent to which each index should be allowed to influence the general result. Thus no account was taken of the fact that the relative expenditure changes with all non-uniform variations of price as among the several items in the composite unit. Thus let us suppose we have decided to use weights $w_a = \frac{1}{8}$, $w_b = \frac{2}{8}$, and $w_c = \frac{5}{8}$, and we work back from the 1918 results (which are to be taken as 1000) to find the 1916 and 1917 price-indexes. We have then :—

Commodity.	1916 Indexes. Index ;	Weight.	1917 Indexes. Index ;	Weight.
A	$\frac{1}{2\frac{1}{2}} \times 1000 = 400$;	$\times \frac{1}{8} = 50$	$\frac{2}{2\frac{1}{2}} \times 1000 = 800$;	$\times \frac{1}{8} = 100$
B	$\frac{2}{2\frac{1}{2}} \times 1000 = 800$;	$\times \frac{2}{8} = 200$	$\frac{2}{2\frac{1}{2}} \times 1000 = 800$;	$\times \frac{2}{8} = 200$
C	$\frac{5}{7} \times 1000 = 714\frac{2}{7}$;	$\times \frac{5}{8} = 446\frac{3}{7}$	$\frac{6}{7} \times 1000 = 857\frac{1}{7}$;	$\times \frac{5}{8} = 535\frac{5}{7}$

$$\left(\text{Mean} = 638\frac{2}{21}\right);\ I = 696\frac{3}{7} \quad \left(\text{Mean } 819\frac{1}{21}\right);\ I = 835\frac{5}{7}.$$

The correct indexes are, for 1916:—$8 \div 12 \times 1000 = 666\frac{2}{3}$; and for 1917:— $10 \div 12 \times 1000 = 833\frac{1}{3}$; instead of which we get the erroneous results $696\frac{3}{7}$ and $835\frac{5}{7}$. The reason of this is obvious; we have not used the weights which the commodities possessed in the basic year, viz., $\frac{5}{24}$, $\frac{5}{24}$ and $\frac{14}{24}$; it is easily verified that if we had we should have obtained the true results. Thus if we substitute the proper weights for those previously used, we get the correct results, thus :—

$$83\frac{1}{3} + 166\frac{2}{3} + 416\frac{2}{3} = 666\frac{2}{3}\text{; and } 166\frac{2}{3} + 166\frac{2}{3} + 500 = 833\frac{1}{3}.$$

But, as previously stated, the process is indirect and involved, and we do not see what we are doing.

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* This is readily seen if we shew in detail the elements of the calculation. Thus, I denoting the price-index, the process for finding it for 1918 is :—

$$I = \frac{1}{8}\left(\frac{2\frac{1}{2}}{1} \times 1000\right) + \frac{2}{8}\left(\frac{2\frac{1}{2}}{2} \times 1000\right) + \frac{5}{8}\left(\frac{7}{5} \times 1000\right) \div \left(\frac{1}{8} + \frac{2}{8} + \frac{5}{8}\right).$$

Multiplying both numerator and denominator by 8, we have—

$$I = 1\left(\frac{2\frac{1}{2}}{1} \times 1000\right) + 2\left(\frac{2\frac{1}{2}}{2} \times 1000\right) + 5\left(\frac{7}{5} \times 1000\right) \div (1 + 2 + 5);$$
$$= \left\{\left(2\tfrac{1}{2} + 2\tfrac{1}{2} + 7\right) \div (1 + 2 + 5)\right\} \times 1000 = 1500.$$

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4. **Accuracy to be expected.**—If we express results to the basic index of 1000, it is implied that the error is not as much as a half-unit either way; that is to say, the index is greater than 999.5 and less than 1000.5. To get such a degree of precision the aggregate cost of the composite-unit adopted must be of a still higher order of accuracy. Suppose, for example, its value at one date is about £8 = 1920 pence, and on another about £8 17s. 0½d., or 2124½ pence. If the first is the basic date this would give an index of 1106.51, which would be written 1107. Suppose the true amounts were £8 0s. 1½d. and £8 16s. 10¼d., the index would then be 1104.49, which would be written 1104. The difference is thus 3 units. The total errors of price causing this are 3¾ pence. Roughly we may say that the order of accuracy in ascertaining price must be about 1 in 2000 to ensure a precision of 1 in 1000. It is obvious that prices must be well ascertained in order to reach this order of accuracy.

5. **Price-indexes for an individual.**—If an individual, whose requirements are (or may be deemed to be) *constant*, were to keep records of his expenditure, his list of items would include expenditures for food and groceries, for rent or its equivalent, for boots and clothing, for travelling expenses, books, and other educative expenditure, for luxuries and amusements, for contributions to insurance of various kinds, for medical and similar attendances, and so on. For short periods, say of the order of a quinquennium, or even a decade or two, the general trend of human affairs may be regarded as fairly constant, but the purchasing-power of money is ever fluctuating. In view of the fact that a considerable number of commodities are continuously available to serve as the basis for ascertaining this fluctuating purchasing-power of money, it is evidently only a matter of keeping proper record to obtain an *unequivocal measure* thereof. Hence the individual would have to select a suitable group of commodities to serve as a basis for estimation. It is self-evident that the best would be that which represents his average needs. To do this with accuracy, the observations of his requirements must embrace a sufficiently long period to obtain a tolerably accurate average; but we shall shew later that such an average need not be as accurate as the record of the varying price of the commodities. So long as this list of items constituting the composite unit represents substantially the usage of the commodities, and so long as the prices paid for such commodities are accurately recorded, so long will the determination of the price-index be satisfactory. The items and the *quantities adopted must, however, be identical for any dates that are to be compared.* If they are not identical, we do not get an unequivocal measurement of the purchasing-power of money, but the joint effect of a variation of the items (either as to quantity, or as to the actual commodity, or to both combined). We may call this variation a *change of regimen*, *i.e.*, a change in the composite-unit. For example, if the individual changes the grade of the things he uses, or the items themselves, *he can no longer make a comparison* as to the purchasing-power of money, although, of course, it in no way hampers him as regards ascertaining what he is spending upon his living.

6. **Effect of changes in the composite-unit.**—There are two ways in which the composite-unit may be changed, viz., (i.) by *changing the relative proportions of the commodities used*; (ii.) by *changing the commodities themselves.* The second might appear to be a more radical change than the first, but from the standpoint of the determination of price-indexes it is hardly less so. If, however, we have the prices for a series of commodities, it is easy to ascertain the consequence of any variation of the mere relative quantities which go to compose the composite-unit. On the other hand, if the past record of the new items is *not* available, the ascertaining of the price-index for the earlier dates ceases to be a possibility. In order to bring into clear relief the equivocal effect of any *radical change* in the composite unit, let us suppose that at two different dates an individual's actual usage is different, being first U_1 and then U_2, composed, say, as follows:—

$$(2)\ldots\ldots U_1 = a \text{ of } A + b \text{ of } B + c \text{ of } C + d \text{ of } D + \text{etc.; and}$$

$$(2a)\ldots\ldots U_2 = q \text{ of } Q + r \text{ of } R + s \text{ of } S + t \text{ of } T + \text{etc.}$$

Obviously no direct comparison is now possible. That the individual might, for example, appropriate his entire income to the purchase of U_1, and then afterwards to the purchase of U_2, shews that we cannot discover the relative purchasing-power. If, for the price-indexes, we used composite-unit U_1 on both occasions, or composite-unit U_2 on both occasions, we should obtain two different results for the purchasing power of money.

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Thus it might be said, " If one had continued to use U_1, the purchasing-power of money would have changed in such-and-such a way," or, if one had originally used U_2, then the change in the purchasing-power would have been in such another ratio.

But neither estimation would really be applicable : both would be purely hypothetical cases. There is no escape from a supposititious case if we are to obtain any indication at all. The only practical solution of real value is obtained by *adopting a hypothetical regimen* or composite-unit, which would occupy, as near as could be judged, a sort of middle position between the two, say—

$$(2b) \ldots\ldots U_m = g \text{ of } G + h \text{ of } H + i \text{ of } I + j \text{ of } J, + \text{etc.}$$

This hypothetical unit is then used to measure the change ; or one could (in a rougher way) *arbitrarily* take the mean of the two determinations, the one being based upon U_1, and the other based upon U_2.

The most general and satisfactory solution, however, is to include in U_m all the items in U_1, and U_2; that is, we should make it consist of a of A, plus q of Q, plus b of B, plus r of R, and so on. (We need not divide these by 2, because the magnitude of the unit does not affect the case, as already shewn). That is, we constitute a fictitious composite-unit, one half of which is true for one period, and the other half for the other, in order to get a comparison between the two. This fictitious unit thus furnishes some basis for a comparison, but strictly is inapplicable. We shall return to this question later and give it more extended consideration

7. **Meaning of price-indexes for groups of individuals.**—In order to fix our ideas, let us picture a relatively small group, say of 1000 persons, whose general usage of commodities was much the same. If now, *in order to embrace all seasonal variations*, we ascertain their total consumption of commodities during a period of 12 months, this will constitute a composite-unit for the group, and one-thousandth part of this will be the *average consumption* per person per annum for the entire group, although possibly not one of the 1000 persons would consume exactly that amount. We may then say that, *for practical purposes*, we are entitled to assume that this average consumption applies not only to the group (which of course it does, quite strictly), but *also to the individual members, for all general purposes.* It is only by means of some such hypothesis that *any* price-index has validity for the individuals of the group. The composite-unit for a group, then, is that representing the group usage. The group may be regarded either as an individual, or as a number of individuals having a common usage. For most purposes it is a matter of indifference which we suppose : it is only when we have occasion to distinguish between individual and average usage that the matter becomes of moment.

8. **Relative, not absolute, amounts necessary to constitute the composite-unit.**—It has already been mentioned that when we ascertain separately the quantities used by two individuals and combine the two results we need not divide by 2. Either the unit of time for which we ascertain average consumption, or the exact number of persons for whom it is ascertained, is of no moment excepting to ensure that the relations between the average quantities used are correct. Hence it is clear that we need know only their *relative* amounts to properly constitute the composite-unit. We are not concerned whether these amounts are per day, week or year, nor whether one individual consumes two average composite-units and another only half of one. What we *do* require to know is how much of each commodity is used *on the average* in any unit of time whatsoever, or for any number of persons whatsoever (the same throughout, of course). The ratio of the cost of this unit at any two dates is obviously the same whatever its size, and depends solely upon the relations of the individual items among themselves, and their prices. If these ratios *are the ratios of actual usage* and the unit is complete, the method is flawless : the change of purchasing-power is fully and exactly ascertained by attributing the actual total cost on the dates to be compared. It is also self-evident that there is no essential difference between the comparisons of price-indexes for two individuals at different places at the one date, or for one individual at two different dates at the one place.

9. **Comparability and non-comparability of individuals and communities.**—If the commodity-usage of two individuals or two communities is identical, then not only are their price-indexes comparable, but also their actual expenditures for equivalent amounts of the unit. With communities whose commodity-usage is entirely

different, a series of price-indexes are strictly non-comparable; the actual expenditure cannot be compared except on the basis of its absolute amount. For example, let us suppose two communities, in one of which the staple food was rice and fish, and in the other wheaten bread and beef, to exist; and to simplify the illustration of the principle governing comparability, let us restrict ourselves to these two items. The variations of purchasing-power are then measured in the one case by the prices of rice and fish, and the relative amounts used of these; in the other by the price of bread and beef. These prices have no necessary connection, and hence the variations in the price-indexes of one community *have no application in the other.* Similarly, among individuals, if the diet and mode of life of one be simple and severe, including but few classes of food and those the cheapest, and that of another be elaborate and luxurious, including great variety and expensive foods, the price-indexes appropriate for the former have no validity for the latter, or *vice versa.* Each is concerned only with the variations in the commodities he uses, and the variation of the purchasing-power of money is wholly dependent upon the applicability or otherwise of the regimen. *The composite unit must be that of actual usage in order to have intelligible meaning and to be applicable in the world of fact.* In so far as it does not represent actual usage *it is meaningless.*

As before, let U_1 and U_2 denote two different composite-units. It will sufficiently illustrate the point if we take, say, a group of 4 commodities, with their corresponding quantities and prices.

Composite Unit U_1

Commodity. (1)	Units and Weig't used. (2)	Price and Aggregate Expenditure.			
		(3) 1912. (4)		(5) 1917. (6)	
Bread ..	lb. 80	*1.5	†120.0	*1.75	†140
Beef ..	lb. 75	5.1	382.5	8.7	652.5
Butter ..	lb. 10	15.7	157.0	18.2	182.0
Coffee ..	lb. 3	18.6	55.8	19.0	57.0
Totals ..			715.3	..	1031.5
In Ratios	(Price-indexes)		1000	..	1442.0

Composite Unit U_2

Commodity. (1)	Units and Weig't used. (2)	Price and Aggregate Expenditure.			
		(3) 1912 (4)		5) 1917 (6)	
Rice ..	lb. 35	*2.80	†98.0	*3.1	†108.5
Fish ..	lb.300	1.50	450.0	2.0	600.0
Sugar ..	lb. 46	2.90	133.4	3.5	161.0
Tea ..	lb. 3	14.70	44.1	17.5	52.5
Totals ..			725.5	..	922.0
In Ratios ..	(Price-indexes)		1000	..	1270.8

* Price per unit shewn in pence. † Aggregate expenditure shewn in pence.

The results shew that the aggregate for 1912 was 715.3 for composite-unit U^1, and was 725.5 for composite-unit U_2, but established nothing as to the relative purchasing-power of money in the two places, *because there is no common basis for estimating this.*

If the units in composite unit U_1, and those in composite-unit U_2 happen to represent the average consumption for an equal period (which is not at all necessary when they are used for ascertaining price-indexes), then all we know is that 715.3 pence in the former case would correspond to 725.5 in the latter (that is, of course, if this list of items in the regimen were complete, which obviously it is not).

The change in the purchasing-power of money is properly found and reciprocally shewn in the price-indexes for individual—or for community—(1), these being 1000 and 1442.0, and for individual—or community—(2) being 1000 and 1270.8. It may be asked—"On what basis could we compare the two places in this respect?" A decline in the purchasing-power of money is certainly exhibited in both results but it is not identical. "Can there be a general representation shewing the joint result?" may be asked. Applying the principle indicated in section 6, we can obtain a kind of comparison by supposing *that each changed its regimen so as to include that of the other. It is now essential that the units in* U_1 and U_2 *should be for identical periods and numbers of persons.* Let us suppose that this is the case. Then we can reconstitute the series so as to contain the whole. We should then have for our grand totals 1440.8 for 1912 and 1953.5 for 1917, giving the price-indexes say 1000 for 1912, and thus 1355.8 for 1917. Had we simply taken the mean of the two results 1442.0 and 1270.8, we should have obtained 1356.4. The two results, though fortuitously (and usually in practical cases) very nearly the same, are not of course identical.*

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* The prices have been taken as though those in the supposititious community were identical with the prices in the two communities.

The *interpretation* of these results is important. Either result by itself represents the change in the price-index for that community, on the assumption that all the items used (and sensibly influencing the result) are taken account of in columns (1) and (2), the prices being as in columns (3) and (5), giving the aggregates of expenditure as shewn in columns (4) and (6). The two results have, as already mentioned, no direct connection with each other. They shew, however, that the purchasing-power for community (1) *with its own regimen* has fallen in the ratio 1000/1442.0, that is, from 100 per cent. to 69.348 per cent., and in community (2) also *with its own regimen* in the ratio 1000/1270.8, that is, from 100 per cent. to 78.681 per cent. When we combine them in one total, on the basis of the composite-unit U_m (the sum or mean of both), obtaining the price-indexes 1000 and 1355.8, it implies that for a community whose average usage embraced all the items of the two and *in identical proportions* (not absolute amounts), the fall in the purchasing-power would have been in the ratio 1000/1355.8 ; that is, from 100 per cent. to 73.757 per cent. Such an hypothetical community could be consitituted by combining equal numbers of each, viz., of community (1) and community (2) with prices changing as shewn.

Suppose, however, that community (2) was only one-tenth the size of community (1). The composite-unit for the aggregate of the two communities combined would be the quantities in the left-hand side of the table plus one-tenth of those in the right-hand side. Thus we should have :—

Commodity.	Bread.	Beef.	Butter	Coffee.	Rice.	Fish.	Sugar.	Tea.	Total.
Units lbs.	80	75	10	3	3.5	30.0	4.6	0.3	..
Price 1912	1.5	5.1	15.7	18.6	2.8	1.5	2.9	14.7	..
Price, 1917	1.75	8.7	18.2	19.0	3.1	2.0	3.5	17.5	..
Expenditure—1912	120.0	382.5	157.0	55.8	9.8	45.0	13.34	4.41	= 787.85
,, 1917	140.0	652.5	182.0	57.0	10.85	60.0	16.10	5.25	1123.70

These aggregates of expenditure for 1912 and 1917 shew that the price-indexes were 1000 and 1426.3 : that is, the purchasing-power of money had fallen from 100 per cent. to 70.110 per cent.

We could get *approximately* the same result by merely weighting the results for communities (1) and (2) according to their populations 10 and 1, total 11. The 1000 for 1912 is of course unaffected. For 1917 we have $\{(1442.0 \times 10) + (1270.8 \times 1)\} \div 11 = 1426.4$, instead of 1426.3 the correct amount. We saw earlier that where the populations were assumed to be equal, we also got approximately the same result ; that is $\{(1442.0 \times 1) + (1270.8 \times 1)\} \div 2 = 1356.4$, instead of the 1355.8, the correct number. If we were to shew the price-indexes to four places of figures only we should have identical results.

The results, when interpreted properly, are *quite definite* and may throw light upon an important phenomenon ; for example, the world-wide falling in the purchasing-power of money. For *that* particular purpose they would be appropriate, notwithstanding their non-comparability for other purposes.

10. **Price-indexes for a class, a community, a state, or an empire.**—Different classes of a community have characteristic differences in their habits of eating and living which are reflected in the commodities they require, and in the relative proportions subsisting between the commodities which they use in common. Thus the composite-unit appropriate to each is not quite identical, and therefore comparisons between the two are not directly possible. If for any *special* inquiry it is required to distinguish between the purchasing-power of money for different classes, communities, States, etc., the appropriate composite-units must be employed.

Among peoples, where the great mass are occupied in ordinary business avocations, the composite-unit can be based upon the usage of the entire community ; the elimination of the effect of particular classes has no sensible effect upon the numbers for the whole. The ascertaining of the average usage of the entire community has the advantage also of generality ; it founds the comparison on the

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average man of the whole community, whereas the other is the average man only for the class in question. A similar remark applies also to the various States of a Commonwealth or of an Empire. The most general basis is the average usage for the whole.

Domestic questions, however, may render it necessary to have also composite-units for each different State, and even for the capital cities as differentiated from the States to which they belong. The criterion is whether the discrimination introduces any sensible change into the result. If it does not, then the most general composite-unit is the best. In any case if mutual comparability is desired, the basis must be uniform.

11. **Small effect of considerable differences in the composite-unit.**—In order to shew that quite considerable changes in a composite-unit do not enormously affect the price-indexes determined by means of them, we will take actual cases which have been calculated on ruling prices. In these cases (I) denotes the quantities used in the official publications of the Commonwealth Bureau of Census and Statistics; (II.) denotes those used by the English Board of Trade, 1904; (III.) denotes quantities advocated by certain workers in the Northern Territory of Australia as typical of the weekly consumption of a working class family consisting of a father, mother and two children; (IV.) is the major part of a dietetic scale which has been suggested.*

Various Composite-units or Regimens, I. to IV.

Commodity.	(I.)	(II.)	(III.)	(IV.)	Commodity.	(I.)	(II.)	(III.)	(IV.)
	lbs.	lbs.	lbs.	lbs.		lbs.†	lbs.†	lbs.†	lbs.†
Bread ..	21.1	22.0	18.0	20.0	Potatoes	20.2	17.0	7.0	14.0
Flour ..	6.7	10.0	1.0	0.5	Onions ..	1.5	—	5.0	—
Tea ..	0.7	0.6	1.0	0.5	Milk ..	6.8 qts.	5 qts.	6 tins*	7 qts.
Coffee ..	0.05	..	—	—	Butter ..	2.1	2.0	1.5	2
Sugar ..	10.4	5.33	6.0	4.0	Cheese ..	0.3	0.75	..	—
Rice ..	1.1	—	3.0	2.0	Eggs ..	4 9‡	12.0	15.0	—
Sago ..	0.2	—			Bacon ..	0.8	1.5	—	—
Jam ..	1.6	—	2.0	1.0	Ham ..	0.2			
Oatmeal ..	0.8	—	—	3.3	Beef ..	8.7	6.5	15.0	16.0
Raisins	0.3	—	—	1.0	Mutton ..	7 5			
Currants ..	0.3	—	—	—	Pork ..	0.8			

— denotes omitted in regimen. * Large tins. † lbs. except where otherwise shewn.
‡ Number of eggs.

When these different composite-units were used and the prices of 1912 and 1915 were applied, the following results were obtained, the 1912 price-index being 1000:—

(1) 1253; (2) 1255; (3) 1254; (4) 1223; (5) 1228; (6) 1232; (7) 1243; (8) 1288; (9) 1247.

These were as follows:—§

(1) Complete regimen as adopted in the Australian Bureau of Census and Statistics;
(2) Regimen (I.) omitting eggs; (3) Regimen (I.) but omitting butter;
(4) Regimen (I.) but reducing the consumption of meat to one third;
(5) Regimen (I.) with reduction as in (4), but also an increase of one-third in bread;
(6) Dietary scale II.; (7) Dietary scale III.; (8) Dietary scale IV;
(9) Average of the preceding eight results.

It is thus seen that (1), (2) and (3) are sensibly identical, the range being less than one half-penny per pound sterling; they are almost in agreement also with the average (9). The marked change implied in (4) and (5) and dietary scales II. and III. (results (6) and (7)) has *not* a marked influence on the result. The reason of this is that the effects of changes are only differential.||

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* By Richard Arthur, M.D., M.L.A., New South Wales.

§ The detailed calculations are not here given.

|| Suppose, for example, the original aggregate expenditure is 2076, made up of various items, and the aggregate on the second date is 2589. This gives a ratio of 1000 to 1247.1. And suppose also items are omitted from the regimen, reducing the first aggregate of expenditure by say 200, the cost of these being only 211 at the second date (1000 to 1055). The amended figures would be 1876 and 2378, their ratio being as 1000 to 1267.6 instead of 1247.1: thus the effect is very slight. If the advance had been 200 to say 249, the result would have been sensibly as before, *i.e.*, 1876 to 2340, or 1000 to 1247.3, because the advance was in the same ratio as the balance of the items.

12. **The relation between price and the composite-unit.**—In ascertaining the cost of a composite-unit we are concerned solely with its *exchange-value* under the ordinary conditions of sale and purchase. Hence, in comparing the cost at two different dates, we must see that the standard or quality of the commodity, or anything influencing its exchange-value, is identical on the two occasions. Its intrinsic, esteem, utility, or other value is of no moment. If, for example, we compare a cheap and poor quality of tea at one date with a dear and high quality at another date, the resulting higher price-index for the latter is due (at any rate in due proportion) to this difference of quality being reflected in the price. The essence of the comparison is that the prices of the commodities are solely the variable element. Thus if (as tastes alter, or as circumstances are deemed to warrant a change in the grade of commodities used) a change is actually made, the variation so caused is *not due to a variation in the purchasing-power of money, but to a change in the standard of usage of commodities.* This may be called change in the *standard-of-living.* Variations of this standard may easily enter into and vitiate the estimations of purchasing-power, and is perhaps the most serious practical difficulty in accurately ascertaining variations in the purchasing-power of money. We shall deal at length with this question hereinafter. It must suffice here to set forth the principle which governs accurate determination, which is:—The grade must be constant, and the price the sole variant.

13. **Criteria of constancy in the standards of quality of commodities.**—Assuming that the quantities of a composite-unit have been well ascertained, there still remains the necessity of seeing that their grade or standard is maintained constant if they are to be used to measure accurately the purchasing-power of money. Certain commodities can be specified very readily in this respect; that is, the grade or quality may be regarded as definitely the same in each locality, and for each successive date. For example, among foodstuffs, commodities like bread, flour, cereals of various kinds, sugars, milk, butter, eggs, etc., can be so described as to ensure reasonably accurate identification of quality. On the other hand, textiles, clothing, boots, hats, articles of attire, etc., are by no means easy to define as to quality. Where a commodity is so difficult to identify in respect of grade that the uncertainty introduced by its inclusion among the items of a composite-unit is sensible, then of course it must be excluded from the list of commodities used for the purpose of measuring change in the purchasing-power of money. It is, of course, obvious that two questions converge here. If an available commodity or grade of commodity disappear, and a higher and more expensive grade is alone available, one is compelled to a greater expenditure; this is a question of change in the standard of living rather than a question of change in the purchasing-*power* of money; it is perhaps a change in the purchasing *opportunity* of money. Questions of this kind are material in estimations of the *cost-of-living.*

14. **Absolute maintenance and quasi-continuity of standards.**—We are here face to face with a real difficulty in regard to commodities. When the question is closely scrutinised it is seen that *the notion that there is or can be any absolute constancy of standard is based upon a fiction.* In foodstuffs, for example, sugar as made to-day is almost chemically pure sucrose: it is a notable instance of the commercial production of a chemically high-grade substance. The last half-century has seen many changes in this respect. Many grades of steel did not exist till recently. Textile fabrics are totally different from what they were a few years back. Since the introduction of bootmaking-machinery certain types of boots have practically disappeared from many communities. Cereals, and products manufactured from them, are prepared in a greater variety of forms. "How then," it may be asked, "is it possible to maintain the standard; and, if in principle that be essential, how can there be any hope of accurately measuring the purchasing-power of money? Must we not also connote the idea of *purchasing-opportunity* in 'purchasing-power,' make the term more elastic, and adapt it to the facts of human life rather than to the expression of an impossible and merely theoretical ideal?"

The answer to these questions must, of course, be that the maintenance, over decades and centuries, of a standard, grade or quality, is impossible; (even commodities themselves change) that such a proposal would be futile; and a solution, depending upon such a hypothetical course, valueless. There must, therefore, be a continual revision of the constitution of the composite-unit so that it may always represent the usage of mankind. Probably this revision should be made every 10 years, so that a sort of quasi-continuity may be thus established. A real continuity is impossible. There is no basis by means of which we can justly compare the purchasing efficiency of money in the days when "gobbets" of meat were picked out of a dish with the fingers, with to-day with its dining-table furniture; or the days when the clavier, harpsichord or spinet was the instrument in vogue, with to-day with modern instruments of the same type. Obviously we might inquire how much labour was needed to live according to the standard of those earlier days, and how much labour is now required to live according to present day standard, *but that is another question.* The hope of continuity is futile: it must be sufficient to establish what may be called a quasi-continuity, viz., one which, though fairly satisfactory for comparisons covering only a few decades, cannot but be less and less significant as the interval becomes greater. *To expect more is to ask for the impossible.* We shall have to become accustomed to the conception that while we may have results numerically expressed covering long periods, and while these may be very satisfactory for points of time at all near together, yet these apparently precise results *inevitably lose their significance or become non-interpretable as the intervals increase.* This is the fact which it is necessary to keep clearly in mind if we are not to becloud ourselves with illusions about the nature of comparisons of the kind under review.

15. **Nominally constant standards.**—There is another difficulty in regard to grade or standard of the items of a composite-unit, which has some slight analogy to the one just mentioned, viz., that touching real identification of grade or quality or even the character of the article itself. A commodity like sugar, for example, may well be of the same grade in all places. But commodities like tea and coffee are of many grades, the identification of which, even if they were practically definable, is virtually impossible. Again, fuel may consist of wood, lignite or brown coal, anthracite or black coal, or in some places the necessary heat and light may be supplied in the form of electric energy, etc. In the last case this could be defined accurately, and could be compared according to the price per unit. But in the other cases mentioned accurate definition is not possible. In the case of fuels, perhaps it would suffice for virtual equivalents to be given equating (for heating purposes) the heating power, etc., of wood, lignite, and anthracite. In the case of tea, the grades of which are very numerous, and taste in regard to which is very variable, it is quite impracticable to attempt to base the comparison on physical standards. In such cases we may often ignore—without vitiating our general purpose of measuring the purchasing-power of money—the physical standard and include it on another basis, viz., that of preference or commonness of usage. Let us suppose that there are really n grades of tea on the market (the remarks will apply to all commodities of the same type) where n may be say 10, 20, or more, the use in any locality being—

$$(3) \ldots\ldots q_1 \text{ of } g_1 \text{ at } p_1 + q_2 \text{ of } g_2 \text{ at } p_2 + q_3 \text{ of } g_3 \text{ at } p_3 + \ldots\ldots + q_n \text{ of } g_n \text{ at } p_n$$

q denoting quantity, g grade, and p the price. If complete information existed it would be possible (though impracticable) to find the average price, and if this were taken in dealing with the particular item, when computing the cost of the composite-unit, it would be satisfactory. In all symmetrical distributions of statistical facts, however, the most frequent as well as the average case lies midway between the others: and in asymmetrical distributions—where the degree of asymmetry is constant—the average case occupies a definite and constant relation to the most frequent case: hence we are practically justified in adopting the *grade most commonly used* as if it were the only grade, and adopting its price. In any one locality probably the relation is very constant, and systematic error quite negligible. As between different localities the error may not be *wholly* negligible, though it will probably be very small, and much of the same order as other unavoidable limitations.

16. **Composite-unit for special purposes.**—Let us suppose that a unit is required for such a purpose as adjusting a *minimum* wage. The balance in this case between the items ought for obvious reasons to be exactly adjusted so that its efficiency as regards nutrition and general hygiene is satisfactory. The question of its economic possibility ought of course to be taken into consideration at the same time. It may also become necessary in times of difficulty to consider available alternatives among various commodities, especially foodstuffs, with a view to meeting shortages. Thus the appropriate composite-unit would be of a restricted character, limited to essentials, and susceptible of accurate identification.

On the other hand, a composite-unit, intended for measuring the purchasing-power of money generally, should be designed to include the largest possible number of *identifiable* commodities; these are taken as the gauge for measuring the fluctuations of the relation between money and commodities.

17. **Secular changes in the purchasing-power of money.**—In order to clearly apprehend the nature of the problem of tracing the secular changes in the purchasing-power of money, let us consider two such simple and important commodities as wheaten bread and sugar. The quality of the wheat from which the former is made has become more definitely fixed: the manufacture of flour improved and the whole process of bread-making such that a better and more definite article has resulted. The same is true of sugar. Canes and beets have been greatly improved, and refined sugar is an extraordinarily pure product. Thus, physically, bread and sugar are no longer quite the same commodity that they were 100 years ago. The price of a loaf of given weight, or of a given weight of sugar, may be taken as that of one of the items in the composite-unit; but the price is really for a *different grade of article*. A little consideration of analogous facts will show what any notion that a continuous relation can be made out *is founded upon a misconception of the essential nature of the problem.*

If we class "lighting" as a commodity, then we have to pass from rushlights to candles, to gas, to the incandescence of mantle lights, to electric lighting, and so on. If in original list rushlights were entered, the item disappears, to be replaced by candles, and so on, and finally by an electric unit. It is evident that we cannot merely enter the unit of lighting, *i.e.*, at one date a candle, and at a later date a unit of electricity. What we *can* do is, as the circumstances change, to include both in proportions, differing from year to year or decade till one passes out and the other takes its place. This is the nature of the change. Thus *the price-index is changing its basis, slightly as regards a period of* 1 *year, but greatly as regards a period of* 100 *years or more.* It is easy to see that its *validity* is unquestionable for tracing changes in the purchasing-power of money over short periods of time, and equally evident that comparisons over great periods are confused with other questions, viz., the characteristic usages of mankind in regard to the various elements of life. One who studies the graph of a series of price-indexes and imagines that it discloses the real variations in the purchasing-power of money over the long period represented (as it does over short periods) *loses sight of the fact that the price-index does not mean the same thing for two points separated by long intervals of time.* Price-indexes are and can be only pseudo-continuous.

18. **Mode of ensuring pseudo-continuity.**—Let us suppose that, at a particular point of time, one of the periodic alterations of the composite-unit has become necessary; that is, we have discovered that we must revise the list of items in our composite-unit by introducing some new ones and varying the quantities of all or most of the remainder, perhaps even omitting some of them altogether. The result may be represented symbolically by such a scheme as the following, viz.:—

$$\text{Old list, } U_c = a \text{ of } A + b \text{ of } B + c \text{ of } C + \ldots\ldots + m \text{ of } M$$

$$\text{New list, } U'_c = \ldots\ldots\ldots\ldots c' \text{ of } C + \ldots\ldots + m' \text{ of } M + n \text{ of } N + p \text{ of } P.$$

The first two commodities are omitted altogether: the quantities $c, d, \ldots\ldots m$ become $c', d', \ldots\ldots m'$ and new commodities are added, viz., n of N and p of P, etc. Since the list is equally good whatever the magnitude of the items, *provided that their mutual ratios are not altered*, we can easily arrange that the price of U'_c (aggregate of cost of all the items in the new unit) is the same as that for U_c. Inasmuch as, when we find the cost of the new composite-unit U'_c for any later date, we then get the same result, whether we divide by the cost of U_c or U'_c, a list of the aggregates of expenditure for a series of years is made continuous, *i.e.*, in the same ratio as the price-indexes. Thus, suppose the change were made in the year 1911, we might have cost of aggregates as follows:—

	Composite-unit 1.				**Composite-unit 2.**			
Years	1908.	1909.	1910.	1911.	1911.	1912.	1913.	1914
Aggregates = ...	201427	200884	205408	212014*	212014†	233316	234088	241668
Ratios × 10000 = ..	9501	9475	9688	10000	10000	11005	11041	11399

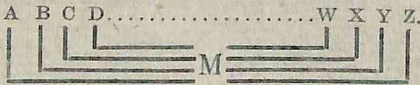
* Cost of U_c.

† Cost of U'_c.

It may suggest itself that, since the price-indexes are assuredly properly determined on the supposititious basis (which initially—at any rate—represents actual usage) for the years 1908 to 1911 (in the illustration above), and also for the years 1911 to 1914, they are therefore rigorously continuous. The invalidity of this view is seen from the following considerations :—If the composite-unit of any period had not ceased to represent exactly the usage of the community (or individual, class, people, etc.) *no change would have been necessary.* The fact that a change has to be made shews that the later values (as 1911 is approached in the illustration) cease to be exact, *i.e.*, they are, rigorously, nominal rather than actual : they would have applied had the usage remained constant. The continuity is not real : as the usage of the community changes it ceases to be valid. An illustration from the individual would again make the matter self-evident. Suppose a man in early life, aged 30, say, ascertained his usage and established a " composite-unit" for himself against the items of which he set out their prices. He thus commences his series of price-indexes. After 10 years he realises that his condition of life and habitual usage have so far changed that he deems it necessary to establish a new composite-unit. This now takes the place of the old one, and from 40 on to 50 he uses the new basis, correcting it each 10 years till 70, when he passes away. His son continues the work, joining on his evaluations of price-indexes, revising his list every 10 years ; being followed in due course by his son ; and so on. The heir is now in possession of *a continuous series of price-indexes.* At no point of time do they appear to be in any way faulty. Clearly, however, in course of time they can no longer be regarded as admitting of comparisons with past years, because the successive changes—despite the fact that each was relatively small—has so altered the basis of comparison that the aggregates of expenditure do not refer to the same things at all. Thus we see the sum of the divergences, each of which was perhaps slight, may be quite considerable in the aggregate, in which case it makes the earlier and later results non-comparable. They might, for example, not contain even a single commodity in common.

19. **The system of relations between money and commodities.**—In all questions of exchange-value, money is a common denominator. Excluding from consideration its dual or multiple functions (as a commodity) it is—as money—the one thing in which the entire system of exchange-relations between commodities is expressed. This may be represented as follows :—

Let A B. . . . . .Y Z denote general commodities, and M denote money, then the direct relation is always between M and A B. . . . . .Z. The indirect are A M B, A M C, etc., B M C, etc., which may be represented by the following diagram:—



It is clear from this alone, that if A to Z disappear, and are replaced by a to z, and later by *a* to *z*, it is meaningless to speak of change in purchasing-power of the one constant thing M for the relations with other things which originally existed and by means of which we measured its purchasing-power have vanished.

It is of course possible to formulate inquiries as to the relation which M bore to so much of each of A, B,. . . . . . etc., or a, b,. . . . . .etc., or *a*, *b*,. . . . . .etc., as were requisite to maintain life or to live according to some definable status, involving the use of these commodities, but the absurdity of any supposition (except upon some fictitious assumption of a purely arbitrary relationship) that a possible relation can be established through this, is self-evident. Money (M) is in constant relationship with commodities : thus its " purchasing-power" can be set out for any or all (in prescribed quantities) that exist. And hence comparisons can be made between those existing at different periods ; as, for example, *in terms of gold,* so much of A, B, C, etc., would be equal to so much of a, b, c, etc., or of *a*, *b*, *c*, etc. In precisely the same way, if the variation in the value of money (its purchasing-power or reciprocal of the price-index) is to be determined in terms of commodities, they must continue to exist in the same unchanging form. Thus the exchange value of gold in terms of " wheat," or of the " flesh of oxen," or in terms of " copper," " tin," " silver," etc., is *possible.* Consequently if only a *significant* permanent unit were available, we could measure the exchange value of gold in terms of this unit and hence, reciprocally, a common basis would be to hand for the measurement of the

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purchasing-power of money. *There is, however, no satisfactory and significant unit other than gold available for such a purpose.* It is precisely because gold possesses certain valuable physical properties (viz., those of a noble metal valuable in the arts, etc.) that the consensus of practice has made it from time immemorial *the* commodity in which the *value* of others could be expressed. Even if a compound unit were established, such as that so much wheat, maize, oats, barley, etc., were to be regarded as a unit of value, the fluctuations of relation between the elements or constituents thereof would render its meaning equivocal, and make futile comparisons based thereupon. We thus see that the impossibility of obtaining price-indexes of unequivocal significance is a consequence of the nature of things, not merely of the arbitrary determinations or usages of the human race.

20. **The effect of abnormal times upon Price-indexes.**—Abnormal times greatly disturb the relationship between money and commodities in one of three ways, viz. :—

(i.) By suddenly and greatly *cheapening commodities, i.e., increasing* the purchasing-power of money ;

(ii.) By greatly increasing the price of commodities, *i.e., reducing* the purchasing-power of money.

(iii.) By greatly *disturbing* the mutual price relations of commodities themselves, *i.e.*, producing a bouleversement of the purchasing-power of money as among different classes of commodities.

The nature of these is easily seen from homely illustrations. When eggs, fruit, etc., are dear, their consumption falls off. In countries where there are famines in cereals (rye, rice, and so on), less is eaten and substitutes are used. If bacon, ham, poultry, cheese, etc., become very dear, people substitute cheaper foods. Thus the regimen on which the composite-unit was founded in normal times no longer applies to the actual conditions of the community. It is not unlikely that variations in food are of value hygienically, when they are restricted in amount, and the available regimens are adequate in quantity, and are agreeable. In the extreme case of famine, all satisfactory regimens become unavailable, and adequate quantities are not to be had. It may be mentioned in passing that in these extreme cases no manipulative control of the relations between wages, prices, and commodities is possible.

It is important to bear in mind that, *per se*, famine does not *necessarily* disturb the relations between commodities ; it may, for example, double, treble, quadruple or raise tenfold the prices of all, and thus raise the price-index in like measure. But so long as the *ratio of usage* in the several commodities is unchanged, the *constitution of the composite-unit is unaffected.* In short, famine or other abnormal situations do not *necessarily* vitiate the composite-unit, no matter to what extent the consumption of commodities is reduced. It is only when such conditions cause *the ratio of usage of the several items to differ materially from that adopted* that they can materially affect the validity of the adopted composite-unit. In fact, very considerable changes may take place in the composite-unit without affecting very greatly the price-index, because when the comparison is made the changed unit must be applied at both dates to measure the change in purchasing-power.

The question as to whether the changed unit is satisfactory from the standpoint of health, comfort, or taste, or not, is an independent question, and is one which does not directly affect the price-index question.

21. **Effect of seasonal fluctuations in consumption of commodities.**—There are many ways in which human needs change during the year. Fuel and lighting are a larger item in winter ; the fruit season produces some change in the nature of the foods consumed ; and certain commodities are dearer at one time than another, producing also a modification of the regimen. Thus even the perfectly ascertained constant composite-unit does not strictly represent human consumption of commodities except " on the average." Price-indexes, based upon a constant composite-unit, are therefore *not strictly accurate* for any particular date, though " on the average" they are accurate. The error, however, in nearly all cases is *quite* negligible.

22. **For many questions expenditure is not the measure of importance of Commodities.**—A composite-unit to form the basis for measurements of the purchasing-power of money should obviously be so constituted as to express the various essential needs of human beings in their appropriate proportion. No account

need be taken, in constituting this unit, of the magnitude of the expenditure on any particular item or series of items. On a superficial view, however, it would seem that it might well be taken into account. It is certainly plausible to assert that the various items must be allowed to be of an importance, proportionate to their ratio to the total. Thus the expenditure on bread and meats is respectively about 3½ per cent. and 14 per cent. of the total expenditure : their relative significance is thus 0.035 and 0.140, or 1 is to 4. Thus we might say if these rise respectively 50 per cent. and 80 per cent. in price their relative significance would be only as 5.25 per cent. to 25.2 per cent., or as .0525 to 0.2520, or roughly as about 1 to nearly 5 (exactly 4.8).

We notice first of all a *practical* difficulty that would be introduced, viz., that the ratio of importance of every commodity is an ever *fluctuating quantity*, except where their prices move up or down in the same ratio. However, mere arithmetical difficulties ought not to operate against the introduction of sound methods : the mode of dealing with them could be easily attended to when the first principle was settled.

Suppose, then, there are three commodities, A, B and C, on which a given amount, say 140s., is spent in a given time : and we will suppose that the expenditure on them is 20s., 40s., 80s., respectively at date 1. Hence the importance of them is respectively 20/140, 40/140, and 80/140, or $\frac{1}{7}$, $\frac{2}{7}$ and $\frac{4}{7}$. At date 2 their prices are found to have increased by respectively 50 per cent., 20 per cent. and 25 per cent. Thus they have become 30s., 48s., and 100s., or 178s. in all, a rise, on the average, of about 27.14 per cent. Their relative importance on the hypothesis that it varies as the amount of expenditure is 30/178, 48/178, and 100/178. The importance is best compared, say, when expressed as decimals. Thus for A, B and C respectively they are :—

(1) A, .14286 ; B, .28571 ; C, .57143. (2) A, .16854 ; B, .26966 ; C, .56180.

Are we to take the first series of values, of their relative importance ; the second series ; or some mean ? Several means have been advocated, the arithmetic (A.M.) ; the harmonic (H.M.) ; the geometric (G.M.).* Without troubling about how these are found or why they are advocated they may be given, and are as follow :—

Arithmetic Means.			**Geometric Means.**			**Harmonic Means.**		
.15570	.27768	.56662	.15517	.27757	.56659	.15464	.27746	.56657
.15570	.27768	.56662	.15527	.27776	.56697	.15484	.27783	.56733

The lower line shews these numbers corrected by a common factor to make their sum unity. The possible geometric and harmonic means being less than unity without this correction, another mean (for which something may be said) is that obtained by taking the means of the numerators and the denominators in the first two series of fractions. This gives .15723 ; .27673 ; .56604 = 1.00000, and we shall denote it by N.D.M. Although these numbers do not differ greatly, the differences are not wholly negligible. Thus the weights expressing the degree of importance attached to the commodities are as follows :—

	Date 1.	A.M.	G.M$_c$.†	H.M$_c$.	N.D.M.	Date 2.
A	.14286	.15570	.15527	.15484	.15723	.16854
B	.28571	.27768	.27776	.27783	.27673	.26966
C	.57143	.56662	.56697	.56733	.56604	.56180
Sums	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

† The small "c" denotes that the means are corrected so as to give unity as their sum.

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* These means between two quantities a and b are :—Arithmetic mean = $\frac{1}{2}(a+b)$; Geometric mean = $\sqrt{(ab)}$; Harmonic mean = $2ab/(a+b)$. Thus the means between 4 and 5 are respectively 4.5 ; 4.472136 and 4.444444.

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For use in connection with the question of a minimum cost of living, it is obvious that the balance of a regimen should, if possible, not be disturbed. The items belong to the class necessities (s), not luxuries (u), see section 1. Hence we might suppose that on the whole the aggregate amount of each item rather than the balance between the items is likely to be disturbed. In any case the measure of the purchasing-power is unequivocal only on that supposition.

23. **The deduction of purchasing-power from the weighted ratios of increase in price.**—In the previous section we may suppose the prices to increase for commodities A, B and C respectively from 1 to 1.5, from 1 to 1.20, and from 1 to 1.25. Let us now compare the effect of the aggregate expenditure (or composite-unit) method with the idea of weighting. The aggregate cost of the same quantity of commodities was (as already stated) first 140s. (at date 1), and then 178s. (at date 2): thus the price-index rose from 1000.00, say, at date 1, to 1271.43, say, at date 2; and this result is unequivocal. Thus we have—

Basis ..	Correct	U_1, Date 1.	A.M.	G.M.	H.M.	N.D.M.	U_2, Date 2.
Index ..	1271.43	1000.00	1275.04	1274.92	1274.82	1275.47	1278.65

Thus, though it seems plausible that the price-index should be based upon the method of weighting the items, according to the magnitude of the expenditure upon them, only the first result is correct, viz., that based upon *the ratio of expenditure at the date from which the ratio of increase is estimated.*

It has already been pointed out that a particular treatment may lead to an arithmetical process which reproduces the computation of an apparently different method (the two methods, however, being really the same). Here also the procedure in a roundabout way merely results in the division of the final cost of the constant regimen by the initial cost, and thus obviously is sound only when the composite-unit is unchanged.

24. **Recapitulation of the nature of the problem of ascertaining the purchasing power of money.**—When, at a given point of time, any unit of money is exchanged for *a definite quantity* of any commodity, of a particular grade, this quantity is the expression of the purchasing-power of the money-unit (*i.e.*, in relation to the commodity in question). In like manner the purchasing-power can be expressed in terms not of its exchange-value in respect of *one* commodity, but in respect of *definite quantities of a series of commodities.* The number of ways in which such a series can be formulated is obviously without limit, and therefore the question of relating *purchasing-power becomes definite only when both the commodities and the quantities and grades thereof are specifically fixed.* Practically it is necessary that they should readily be identifiable both as to character and quality or grade. A list of commodities with the grades and quantities required by any individual, or by a group of persons, may be called a *composite-unit* and may be used as a qualitative and quantitative common-denominator for the measurement of the changing relation between money and the selected group of commodities.

With different schemes of expenditure (or composite-units) money has different purchasing-powers even for an individual. The most significant of these is that purchasing-power, which is based upon a composite-unit in accord with the actual usage of the individual; similarly for any group or class of individuals, whether small or large, if the composite-unit represent their usage on the average, it may be regarded as applying to the total group, since the *average usage* may be attributed to each member. We can make any date at which prices are obtained a *reference date*, and computing the aggregate-cost of the composite-unit at that date, we can regard the total amount as a *unit of expenditure*. If, then, the cost of the *same* composite-unit be made out to any other date, this cost, divided by the original cost, is the price-index of the second date in regard to the first, and is the reciprocal of the purchasing-power, since it shews the amount that has to be paid for the composite-unit on the second occasion, that on the original occasion being regarded as 1. In order to avoid the use of decimals, however, it is convenient to express the unit on the original date (to which all others are referred) as 100, 1000, 10,000, etc., according to the precision with which it is desired to shew the results.

Inasmuch as human affairs change, the composite-unit used for this purpose cannot be regarded as permanently applicable: it has to be amended from time to time. Consequently, although price-indexes are apparently continuous, *they are not really so*: when taken over long periods of time they do not refer to the same physical unit of reference.

For mere arithmetical convenience it is well, when changing from an old to any new series of commodities, to arrange that the new composite-unit shall cost the same as the old on the date of change. It is not necessary to do this, but, if done, the aggregates can then be used continuously, the ratio of one aggregate-cost to another shewing therelative purchasing-powers or price-indexes as the case may be.

If at each date when the list is changed, *i.e.*, when the composite-unit is altered, the change be insignificant, the result is more nearly continuous, whereas if the change be great the result is really more markedly discontinuous. It is obvious that the change can be made as rarely or as frequently as we desire. Human customs, however, are ordinarily sufficiently constant to admit of a change being made not more frequently than say every five or ten years. Towards the end of each period, perhaps the composite-unit will ordinarily have ceased to accurately represent the usage of the individual or community, concerned in the change in the purchasing-power, but no very distinct advantage would be gained by annual changes of the unit; indeed, in the case of the newly introduced commodities, prices may not be available in the past. So long as the composite-unit fairly well represents the usage of the community, it reflects the purchasing-power of money with great accuracy, *i.e.*, that purchasing-power which is significant to the community in question. The method of determining price-indexes or purchasing-power by means of the cost of the composite-unit is one which not only is theoretically unimpeachable: it is also in practice by far the most simple method. It has also the advantage that one can ascertain instantly, and in the simplest possible way, the exact effect of any uncertainty in the data. Other methods are not only theoretically less satisfactory, but also obscure the intrinsic nature of the method adopted.

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PART III.

TECHNIQUE OF COMPUTING PRICE INDEXES.

SYNOPSIS.

1. Essentials of problem.
2. The purpose of price-indexes.
3. Price-indexes for deducing the quantity-ratios from the values of imports.
4. The composite-unit for price-indexes of imports.
5. Price-indexes for relating quantities to values of exports.
6. Ascertaining the elements of a composite-unit.
7. How far may composite-units formulated for a particular purpose be used generally ?
8. Price-indexes ascertained from price-ratios.
9. Price-indexes must be reversible.
10. In price-indexes reversibility a necessary but not a sufficient condition.
11. Weights of price-ratios must be means of weights of relative expenditures on compared dates.
12. Computation of price-indexes when quantities used are identical at both dates.
13. Computation of price-indexes when quantities used are *not* identical at both dates.
14. The disadvantages of the price-ratio methods.
15. Practical difficulties in obtaining accurate price-indexes.
16. Character of items in composite-unit.
17. Changes in composite-unit.
18. Revision of price-indexes to secure high accuracy of long periods.
19. Price-indexes with a periodic change of the composite-unit.
20. Omission of items from composite-unit.
21. Variations of price-levels.
22. Advantages of a price-index over a price-level.
23. On the discontinuity of price-indexes.
24. Substitution of equivalent items in a composite-unit.

1. **Essentials of problem.**—Among commodities of ordinary usage are the following, viz. :—

- (i.) Those which can be readily specified and identified as regards essential character, and quality or grade.
- (ii.) Those which, though not readily specifiable and identifiable as regards grade and physical qualities, etc., can, nevertheless, be definitely determinable by common usage, and may be regarded as equivalent.
- (iii.) Those which are not determinable because of difficulties of specification and recognition as between one date and another, or one locality and another.
- (iv.) Those whose distribution and use are infrequent or in any way not characteristic of sufficiently large groups to have significance in the formulation of a composite-unit.
- (v.) Those which, though embraced in (i.) to (iv.) are used in such small quantities as to be negligible in any general considerations.

Bearing in mind that the essence of any accurate evaluation of a price-index, is that like shall be compared in price with like, it is obvious that in the formulation of the composite-unit only (i.) and (ii.) can be included. To attempt to introduce (iii.) and (iv.) would have the effect (*a*) of impairing the accuracy of the index without materially extending its significance, and (*b*) *of confusing change of price with change of standard.* The notion that price-ratios might be in some way combined with the result so as to extend its significance is founded upon a misconception of the whole technique of ascertaining a price-index. If the composite-unit is too restricted, the best way (ordinarily) of extending it is to include other items, with all their measure of uncertainty. The result will then be quite definite, provided we know the measure of the uncertainty, for we can in such a case very readily ascertain what effect the uncertain items in the composite-unit have upon the aggregate. Thus let us suppose that for the year 1916 the aggregate expenditure was 21025 ± 17; and that for the year 1917 was 23059 ± 48. In such a case the uncertainty in the price-index ranged between $23107 \div 21008$ and $23011 \div 21042$. Hence we have the results :—Minimum, 1093.6; Medium, 1096.7; Maximum, 1099.9. These results can be expressed $21025 (1 \pm 0.00081)$ and $23059 (1 \pm 0.00208)$, which enables us—seeing the quantities are small—to write down at once $1096.7 (1 \pm .00289)$. Having the result based upon the certain items before us we can at once see whether the somewhat uncertain items should or should not be included, for the value of the price-index lies between 1093.6 and 1099.9. If on omitting the uncertain items the index lies outside these limits, it is clearly preferable *not* to omit them. We shall later consider the case where every element is regarded as subject to some measure of uncertainty.

The essentials then for accurately finding price-indexes are the following :—

(*a*) The formulation, subject to the limitations just indicated, of a composite-unit, shewing the commodities to be included and the quantity (average usage) of each.

(*b*) The obtaining of the prices of these commodities (either the modal, *i.e.*, the most frequent, or the average prices).

(*c*) The computation of the total cost of the composite-unit by attributing the price to each item according to its quantity, and forming the sum of the items.

(*d*) The obtaining of the price-indexes (by divisions) from the cost, at different times or places, of a definitely constituted composite-unit, some particular year and place being constituted a time and place of reference.*

Of these (*a*) is determined by the *purpose of the index.* We shall deal with several principal purposes in the next section. Afterwards we shall consider the finding of the prices, and the methods of computation for the purpose of arriving at the price-indexes.

2. **The purpose of price-indexes.**—There are several purposes served by means of price-indexes. In the most general view their purpose is to ascertain the exchange-relation between the unit of money (gold) and the totality of other commodities in the quantities in which the latter occur, or are used : see section 19 of the preceding part. The solution of this problem is, however, impracticable because of its magnitude. The most general practicable solution is that in which all *the most significant commodities are selected and are assumed to represent the whole.*

The more restricted purposes then are as follow :—

(i.) To find the general exchange-relation between money and all important commodities in the proportion of their usage.

(ii.) To find the general exchange-relation between money and the commodities used by a particular State, or class within the State.

(iii.) To find the general exchange-relation between money and the commodities imported into a country (*a*) for the purposes of analysing the volume of trade, or (*b*) generally.

(iv.) To find the general exchange-relation between money and the goods exported from a country (*a*) for any special purpose, or (*b*) generally.

(v.) To measure the purchasing-efficiency of wages and salaries for the classes receiving them.

(vi.) To shew the possible differences between payment in kind and in money in regard to services, contracts, annuities, etc.

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* The index for this basic year and place is usually made 100, or 1000. If we want high precision for particular comparisons it might even be made 10,000.

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These embrace the main usages, and, it will be seen, must be taken into account in establishing the technique of ascertaining the appropriate price-index. We shall deal first with the more restricted use in the case of imports, and exports.

3. **Price-indexes for deducing the quantity-ratios from the values of imports.**—If external trade, either imports or exports, be measured solely by value, it is of course impossible to say whether its volume has actually increased or not. For if the *quantity* of goods were identical for any two years, and higher *values* were attributed to them for the later year than were attributed on the former, the imports would *appear* to have increased, whereas in fact only their price had increased. Thus to decide certain obvious economic questions both quantity and value are required in trade-returns. If from the value of the imports we wish to compare the magnitude of the imports with that of other years, we must reduce the records of value by means of an appropriate price-index. For suppose the value of imports had increased from 100 millions to 120 millions, it would denote an increase in volume of 20 per cent. if the price were unchanged and no increase in volume whatever if the prices had all advanced 20 per cent.

Suppose the price-indexes were 1000 and 1100 and the increase in the value of the total trade was 20 per cent., *i.e.*, from 100 to 120; then half of this difference would represent the effect of price: that is, in the second year the same quantity of goods as in the first year cost 110 (100 × 1100 ÷ 1000). Thus the real increase was in the ratio of 110 to 120, or as 100 to 109.091; that is, the quantity had increased not 20 per cent., but 9.091 per cent. (The *value of this increase* expressed as a percentage of the total value of imports in the first year is of course also 10 per cent.)

We see then that if i denote the price-index for *imports*, and I their total *value*, the ratios of their quantities, Q, are :—

$$(4)\ldots\ldots Q_1 : Q_2 : Q_3 : \text{etc.} = \frac{I_1}{i_1} : \frac{I_2}{i_2} : \frac{I_3}{i_3} : \text{etc.}$$

the suffixes denoting the successive years. Or we might express this relation—

$$(5)\ldots\ldots Q_1 i_1 : Q_2 i_2 : \ldots\ldots : Q_n i_n = I_1 : I_2 : \ldots\ldots : I_n.$$

The ratio Q_1/Q_2 in this sense is a sort of *general expression* for the ratio of the quantities of the aggregates of trade.

It is convenient to have an index for the purpose of representing the volume of trade in succeeding years, viz., the value of the ratio $Q_n/Q_1 = q_{n1}$ say, so that q_{n1} will denote what may be called the ratio of the *generalised quantities* of the trade at date n compared with date 1. Thus from (4) we have—

$$(6)\ldots\ldots q_{n1} = (I_n/i_n) \div (I_1/i_1) = \frac{i_1}{i_n} \cdot \frac{I_n}{I_1}$$

These ratios could be multiplied by 1000, 10,000, etc., the accuracy depending on that to which the price-indexes were expressed.

4. **The composite-unit for price-indexes of imports.**—The composite-unit for dealing with questions relating to imports must, of course, be formulated from the imports themselves by selecting such commodities as may be identified for at least two succeeding years, the general principle of identification, etc., being substantially that already indicated in section 1.

In obtaining price-indexes for imports, however, it is not always possible, and for certain purposes it is not even specially desirable, to avoid indifference as regards grades and qualities. This becomes obvious from the following considerations. Suppose equal quantities (by weight or measure) were imported in successive years (though this is not essential), the grade being the same but the price 10 per cent. higher in the second year. In such a case the price indexes would be in the ratio 1000 and 1100, and by dividing the values by these numbers we should have the quantities expressed in their true ratio: that is, in the case supposed they would be equal. It is clearly immaterial *from the standpoint of quantity merely* whether the advance in price is due to improvement in quality or not: consequently, if there be no reason for recognising (as however there would be, in questions of standard-of-living), the difference of grade, such differences may be ignored.

In national economics, questions of import and export are concerned largely with the *volume of trade*. This is often the element of chief moment. We may, therefore, unhesitatingly use price-indexes obtained from data in which there has been no nice discrimination in regard to grade, provided that fact is duly recorded, and provided also that the price-indexes so ascertained are not otherwise misapplied —as they would be, for example, in any attempt to use them in criticising the significance of advances in price for wage-earners.

We see that the *purpose* of a price-index affects the technique of its computation. Thus if, in the case of imports, the price-index is to be applied to any questions in which the grade of goods used is a material feature, that computed for deducing a general measure of quantity from value *is inappropriate*, and its use would lead to erroneous results. And inasmuch as for so many commodities the standardising of qualities or grades over long periods of time is practically impossible, or at least very difficult, we can hope to make accurate deductions only for points of time relatively near together.

5. **Price-indexes for relating quantities to values of exports.**—Precisely as the values of imports fail to shew the volume of trade, so also the value of exports, E, do *not* shew the volume of exports. Hence in the same way an appropriate price-index, e, must be applied ; so that we shall have, as in the last section—

$$(7) \ldots\ldots Q'_1 : Q'_2 : \ldots\ldots Q'_n = E_1 / e_1 : E_2 / e_2 : \ldots\ldots : E_n / e_n$$

Q' denoting what may be called the " generalised quantity" of the export We may call the ratios of the volume of trade the *index of the volume of trade*, and denote it by q', then we shall have as before—

$$(8) \ldots\ldots q'_{n1} = (E_n / e_n) \div (E_1 / e_1) = (e_1 / e_n)\,(E_n / E_1).$$

By the use of export price-indexes, therefore, we can analyse the volume of the exports just as we could that of the imports.

The essence of the methods for determining both price-indexes, viz., the indexes for imports and exports, is that the usage of commodities must be (substantially) the same for the two dates to be compared (*i.e.*, in either case) if the result is to be unequivocal. If the composite-unit has varied in either case the results cannot be strictly comparable, and the application of corrections to values in order to obtain the generalised quantities is then only approximate.

We shall deal later with a particular type of price-index which we shall call *price-levels*.

Where exports (or imports) have a well-defined periodic fluctuation the composite-unit should be the mean of a whole fluctuation period : this may be taken to be sufficiently representative of the entire range. It will be seen later (viz., in the section on price-levels), that the mean of several years gives very uniform results.

6. **Ascertaining elements of a composite-unit.**—Two fundamentally different methods are available for ascertaining the constitution of the composite-unit, viz. :

(*a*) Compilation from household budgets, etc.

(*b*) Deduction from the total consumption of a population.

When employing method (*a*) the group of households should be so constituted as to give good average results : hence the frequency of those differently constituted as to numbers and usage of commodities should at least roughly conform to the class in the community selected, or for the entire community, as the case may be. The method (*b*) is the most general, and is probably the safest : the unit so computed represents the usage of the community as a whole.

Where both methods are practicable, the advantage of using both and of taking the means (duly weighted according to the probability of their accuracy) is self-evident.

The following values for the item-units were found for the constituents of the composite-unit for Australia generally and for Western Australia, and are given as an illustration of the type of composite-unit required in inquiries relating to *the varying purchasing-power of money in regard to food*. These regimens or composite-units have been found in quite different ways. The first was determined by method (*b*), and is based upon an estimate of the consumption in Australia carried over about 10 years. It thus represents the usage of the entire community. The second was determined by method (*a*), and represents the usage of workers in Western Australia, mainly Perth, observed over a short period of time, about 3 months

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Composite-unit Representing Weekly Consumption of a Family of about 5 Persons.

COMMODITY.	AMOUNT.		COMMODITY.	AMOUNT.	
	C'wealth.	W. Aust.		C'wealth.	W. Aust.
	lbs.	lbs.		lbs.	lbs.
Bread ..	21.1	19.87	Potatoes ..	20.2	11.3
Flour ..	6.7	5.5	Onions ..	1.5	1.4
Tea ..	0.7	0.7	Milk ..	17.6*	12.2†
Coffee ..	0.05	0.07	Butter ..	2.1	2.4
Sugar ..	10.4	6.4	Cheese ..	0.3	0.3
Rice ..	1.1	0.8	Eggs ..	0.8‡	3.39§
Sago ..	0.2	0.2	Bacon ..	0.8	0.4
Jam ..	1.6	2.5	Ham ..	0.2	0.1
Oatmeal ..	0.8	1.0	Beef ..	8.7	5.4
Raisins ..	0.3	0.7	Mutton ..	7.5	3.9
Currants	0.3		Pork ..	0.8	0.8

* 6.8 quarts. † 4.7 quarts. ‡ 4.9 eggs. § 21 eggs.

These quantities may be called the *mass-units* of the regimen (or of the composite-unit).

In view of the fact that these composite-units are actually deduced from the best evidence available, they afford an interesting test of the variation of price-index determinations based upon a general composite-unit, and one representing only a particular class. We take for this purpose (at random) the Commonwealth averaged prices for the years 1912 and 1917, and on these bases the *total expenditures** would be

Commonwealth basis	1912 = £313,907*,	1917 = £395,942*
W. Australian basis	1912 = £268,732*,	1917 = £325,257*

Thus the price-index for the former year being 1000.0 for both the Commonwealth and Western Australian bases, the price-indexes are respectively 1261.3 and 1210.3. We are able to see from this that *quite considerable differences in the regimens* (or composite-units) *do not very greatly affect the price-indexes*: although they may, of course, considerably affect the aggregates of expenditure. Meticulous accuracy is, therefore, not necessary in regard to composite-unit.

The composite-unit furnished in the preceding table is of course specially suitable for determining the variations in the purchasing-power of money, in relation particularly to food and groceries and to other things also in so far as they reflect the general variation in the value of money. To that extent they may be applied generally.

7. **How far may composite-units formulated for a particular purpose be used generally?**—Owing to the very large number of commodities the *standard* or *quality* of which cannot be identified, it is not unfrequently necessary to exclude them from the composite-unit constituting the basis of comparisons. The nature of the criteria for this has already been considered, viz., in sections 13 to 15 of Part I. The principle to be followed is as follows :—

(i.) If the grade of a commodity be so changed that the price must be affected thereby, to include it would be to vitiate the price-index by *change of standard* (*e.g.*, if a better article is dearer in price it does not shew that the purchasing-power of money has declined).

(ii.) If what is virtually a new commodity nominally takes the place of an old one, it ought—in general—to be excluded in ascertaining a price-index; because the difference in price is not change in the purchasing-power of money. (This is analogous to the preceding case).

(iii.) If the common-elements of usage at two dates or at two localities be restricted to a given number of commodities the only unequivocal comparison is that which is made on this number. This, however, may be of very limited value.

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* For a considerable unit of time or for a large number of persons. The time or number is material. They, however, are the same in each case.

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If we are justified in assuming that the prices (or cost) of the balance of the commodity-usage (or other usage) has, notwithstanding all variations between one item and another, increased (or diminished) in the same proportion, then the composite-unit considered is of wider application than its immediate purpose. Thus *price-indexes based upon a limited number of commodities are often properly regarded as of general application*, unless it be known that the application ought to be restricted, that is unless it be known that the omitted particulars (assumed of course to be of the same standard) differ on the average from what is indicated by the price-index.

This matter will be more fully considered hereinafter.

8. **Price-indexes ascertained from price-ratios.**—A price-ratio is the ratio of the price of a commodity at one given date compared with its price at another given date. *It is thus independent of quantities or units of measurement*; it matters not whether the price is per pound, per ton, per yard, per article, etc.

Let p, q, r, etc., be a series of price-ratios for commodities P, Q, R, etc.; and let us suppose that the quantities of the mass-units, or the quantities used are α, β, γ, etc., respectively. We shall shew that *the price-index can be fairly accurately computed from the price-ratios, provided certain safeguards are attended to.* Considering primarily two items only, let us suppose that at date 1 the price of $P = 3$, and of $Q = 4$; and at date 2 the prices were 6 and 5 respectively.* Then the price-ratios P and q are as follow, viz. :—

$$P = 6 \div 3 = 2 \text{ and } q = 5 \div 4 = 1.25.$$

If we do not know what influence (weight) each should have on the result for the two combined, we should know that, in so far as these two commodities are concerned, the price-index must have been between 2000 and 1250, the mean being 1625, the reciprocal of which gives 615.3846, the date of reference being the first date. Suppose the second date is made the date of reference, then we should have $p' = 3 \div 6 = 0.5$ and $q' = 4 \div 5 = 0.8$ Thus it would appear that the price-index lies between 500 and 800; the mean being 650, not 615.3846 as before. The reciprocal index is 1538.4615. If we suppose that the usage was one unit of each, we should have for the price-index $(6 + 5) \div (3 + 4) = 1\frac{4}{7}$, or for the second date as reference date $(3 + 4) \div (6 + 5) = \frac{7}{11}$; that is the price-index for the two commodities combined was 1571.4286 or reciprocally 636.3636, either number being (when accurately expressed) *exactly* the reciprocal of the other. Thus we have three different results, according to which way we calculate, viz. :—

1625.0; 1538.46; 1571.43 or 615.38; 650.00; 636.36.

We see, therefore, that only one of the methods indicated is *reversible*: that is only one of the methods gives identical results whichever date we make our basis.

9. **Price-indexes must be reversible.**—Since it is quite arbitrary whether we adopt one date or another as a date of reference, by whatever arithmetical (or other) method we deduce a price-index it must be consistent with the price-index deduced with any other date as basis. Thus if the two dates are say 1910, and 1915 and the price-index for 1910 is 1000, and for 1915 is 1500, it means that £1500 is required to buy in 1915 what £1000 would buy in 1910. This is the same thing as saying that £1000 (or $\frac{2}{3} \times 1500$) is necessary to buy in 1915 what could have been bought for £666$\frac{2}{3}$ (or £666 13s. 4d.) in 1910. Thus if the price-index for 1915 is made 1000, that for 1910 is 666.6667. We see, therefore, that if we base the indexes on the *total of the expenditures* (or aggregate cost) of the composite-unit, this condition must always be fulfilled, but it was not fulfilled in the other cases. We cannot therefore regard arithmetical means as satisfactory, plausible as it might seem to do so.

Let us still suppose that the quantities of commodities P and Q were one unit of each: thus we have for the price index for the year 1910 (as the basic year) $P = 2$; $q = 1.25$. The *geometric mean* of these is $\sqrt{(2 \times 1.25)} = 1.5811388$, the reciprocal of which is 0.6324553. If 1915 is made the basic year we have $p' = 0.5$ and $q' = 0.8$. The geometric mean is $\sqrt{(0.5 \times 0.8)} = 0.6324553$ as before. Hence the *geometric mean also possesses the property of being reversible*, and it is the only mean which has that property. More generally we have for the geometric mean of a series of quantities :—

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* The particular unit is of no moment.

$$(9)\ldots\ldots \quad \frac{1}{\sqrt{(p\cdot q\cdot r\ldots\ldots \text{etc})}} = \sqrt{\left(\frac{1}{p}\cdot\frac{1}{q}\cdot\frac{1}{r}\ \ldots\ldots \text{etc.}\right)}.$$

as is obvious algebraically. We note, however, that the above result, 1.5811388, does not agree with any of the three preceding values. Thus, although satisfactory in so far as reversibility is concerned, *it is not correct if* the aggregate-cost (or expenditure) method is correct, as we have shewn it is.

10. **In price-indexes reversibility is a necessary but not a sufficient condition.**—Any satisfactory method of calculating a price-index must have the property of reversibility : that is a test condition. Suppose for example that, starting with the year 1910 as base, we make the price-index 1000, and using a particular method of calculation, we find that the price-index for the year 1915 is 1600. The ratio of 1000 to 1600 is the same as the ratio of 625 to 1000, hence if we had made the base 1000 for the year 1915, the price-index of the year 1910 must be 625. If, therefore, any adopted method of calculating price-indexes does not give this result, *i.e.*, automatically fulfil this requirement, it is fundamentally a wrong method, and should be excluded as an inappropriate method of computation. This leaves available two satisfactory methods only, viz., the method of comparing the aggregate cost of composite-units, and the method of finding the *geometric means* of suitably-weighted price-ratios. We shall see that the weighting for a price-ratio is in the form of a *power* to which the price-index must be raised, and shall now shew that the assumption of identical quantities is an essential, though of course the quantities of the commodities actually used may not be the same on both occasions. This, however, does not effect the question of reversibility.

11. **Weights of price-ratios must be means of relative expenditures on compared dates.**—It is a plausible proposition that the economic significance of a commodity should be measured by the amount of expenditure thereon. Thus, if, on the average, a community spends three times as much money on meat as it does on bread, the economic importance of meat may be regarded as three times that of bread. We have already shewn, however, that this leads to a variable relation, due to want of uniformity in the changes of price. We are, therefore, on the horns of a dilemma ; either the expenditure must be regarded as constant, or the usage must be regarded as constant.

If we made expenditure constant the question of the purchasing-power of money would cease to have any significance. At the most, therefore, we must suppose that there are only relatively small variations in the quantities used, and, as already shewn, an unequivocal meaning to purchasing-power exists only when the quantities of the commodities are assumed to be identical on the two dates. If, therefore, the actual quantitative usage is different on the two dates, we must adopt some mean (arithmetic or geometric, etc.) between the two, in order to establish an unequivocal basis of comparison, otherwise the result deduced would be the combined effect of change in purchasing-power with change of standard-of-living, or of usage. We must assume, therefore, that the mean quantities are the quantities used on each of the two occasions, and that the weights to be attributed to the price-ratios have some value lying between the relative expenditure on the commodities at the two dates compared. We shall shew later, by arithmetical examples, that the best mean is the geometric, but we shall also shew that the arithmetic mean gives nearly the same result, and is sufficiently accurate.

12. **Computation of price-indexes when quantities used are identical at both dates.**—Let us now, in the case illustrated in section 8, suppose that the cost of P and Q was expressed in shillings, say 3s. and 4s. respectively, on the first date, and 6s. and 5s. respectively on the second date. Thus the proportionate cost of each commodity was $\frac{3}{7}$ and $\frac{4}{7}$, respectively, on the first date, and $\frac{6}{11}$ and $\frac{5}{11}$, respectively, on the second date. If we make the weight dependent on the *relative expenditure* on

the two items we have, therefore, a different ratio on the two occasions, viz., for P, $\frac{3}{7}$ and $\frac{6}{11}$, and for Q, $\frac{4}{7}$ and $\frac{5}{11}$. For the purpose of examining their influence on the result we shall take both the arithmetic and geometric mean of these quantities. Thus we have :—

Commodity.	Arithmetic Mean.	Geometric Mean.
For P ;	$\frac{1}{2}\left(\frac{3}{7}+\frac{6}{11}\right)=\frac{75}{154}=0.4870130$;	$\sqrt{\left(\frac{3}{7}\cdot\frac{6}{11}\right)}=\sqrt{\frac{18}{77}}=0.4834938$
For Q ;	$\frac{1}{2}\left(\frac{4}{7}+\frac{5}{11}\right)=\frac{79}{154}=0.5129870$;	$\sqrt{\left(\frac{4}{7}\cdot\frac{5}{11}\right)}=\sqrt{\frac{20}{77}}=0.5096472$

The sum of the arithmetic means is, of course, unity, but that of the geometric means is not unity. Suppose now that we regard these as the weights of the two price-indexes, and denote them by u and v, and by u' and v' respectively. First of all we take the arithmetic mean weights u and v ; we then have :—

$$(10)\ldots\ldots\log\left\{\left(p^{u}\cdot q^{v}\right)^{\frac{1}{u+v}}\right\}=\frac{\frac{75}{154}\log 2+\frac{79}{154}\log 1.25}{\frac{75}{154}+\frac{79}{154}}=.19631997$$

$$=\text{log. of } 1.571520.$$

This multiplied by 1000 is 1571.520, which corresponds almost exactly with what was found by comparing the aggregate costs, viz., 1571.429 (expressed to three decimal places). If we used the values of u' and v', viz., .4834938 and .5096472, the sum of which is .9931410 we should get :—

$$\frac{u'\log 2+v'\log 1.25}{u'+v'}=\frac{.19493605}{.9931410}=.19628235=\text{log of } 1.5713839.$$

This multiplied by 1000 is 1571.384, which is still nearer the result obtained, by comparing the aggregate cost, the three results being respectively :—

Aggregate cost result = 1571.429. A.M. weights result = 1571.520
G.M. weights result = 1571.384 ;

A.M. denoting arithmetic mean, and G.M. geometric mean. These results are thus seen to be sensibly identical.

13. **Computation of price-indexes when quantities used are not identical at both dates.**—Let us take another elementary example, and suppose that 10 units of commodity P at 2s. each and 6 units of commodity Q at 5s. each are used at date 1, and 5 units of P at 6s. 6d. and 4 units of Q at 7s. are used at date 2. Thus the expenditures are :—

At date 1.

P......10 @ 2s. = 20s. ; Q......6 @ 5s. = 30s. ;

At date 2.

P......5 @ 6s. 6d. = 32s. 6d. ; Q......4 @ 7s. = 28s.

The aggregates, therefore, are 50s. and 60s. 6d., their ratio being as 1000 : 1210. This, of course, is *not a price-index*, because the quantities are different. If, in order to make a comparison of expenditures, we take, as the regimen, the means of the numbers of units, we have :—

$\frac{1}{2}(10+5)=7\frac{1}{2}$ of P ; and $\frac{1}{2}(6+4)=5$ of Q.

From these we obtain the following results, viz. :—

Cost at Date 1.	Cost at Date 2.	Ratio of Costs.
$(7\frac{1}{2}\times 2\text{s.})+(5\times 5\text{s.})=40\text{s.}$:	$(7\frac{1}{2}\times 6\text{s. } 6\text{d.})+(5\times 7\text{s.})=83\text{s. } 9\text{d.}$	1 : 2.09375

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Thus the aggregate-cost method gives a price-index of 2093.75, that at date 1 being 1000. Working, however, by price-ratios we have for P the price-ratio = 3.3 = p; for Q the price-ratio = 1.4 = q. The *relative expenditures* for P and Q respectively were for date 1, $\frac{20}{50}$ and $\frac{30}{50}$, or $\frac{2}{5}$ and $\frac{3}{5}$; and for date 2, $\frac{32.5}{60.5}$ and $\frac{28.0}{60.5}$, or $\frac{65}{121}$ and $\frac{56}{121}$ Thus—

$$u = \frac{1}{2}\left(\frac{2}{5} + \frac{65}{121}\right);\ v = \frac{1}{2}\left(\frac{3}{5} + \frac{56}{121}\right);\ \text{or } u' = \sqrt{\left(\frac{2}{5}\cdot\frac{65}{121}\right)};\ v' = \sqrt{\left(\frac{3}{5}\cdot\frac{56}{121}\right)}$$

that is, $u = 0.468595$; $v = 0.531405$; or $u' = 0.463547$; $v' = 0.524105$. Using first one mean and then the other and noting that in the first case $u + v = 1$, we have log ratio required = .468595 log. 3.3 + .531405 log. 1.4 or

$$= (.463547 \log.\ 3.3 + .524105 \log.\ 1.4) \div 0.987652.$$

The two results are 0.3206262 and 0.3209045, which are the anti-logarithms of 2.09231 and 2.09365. Multiplying these by 1000, we have for the price-indexes obtained in the several ways :—

Aggregate-cost result = 2093.75 : A.M. weights result 2092.31 : G.M. weights result 2093.65.

As before, we see that the result when we use weights, which depend on the geometric means of the relative expenditures, are of higher precision than the result obtained when we use those which depend upon their arithmetic means. But we see also that even the arithmetic means give a very accurate result. The case taken is a very severe test, and yet the results are practically identical. *Price-indexes, therefore, can be found from price-ratios*, provided we properly weight the individual ratios : to secure high accuracy these weights must be the arithmetic means (or preferably the geometric means) of the relative expenditures on the two occasions—*of a common unit of usage*, viz., the arithmetic mean of the units used on the two occasions, if they are not identical.

14. **The disadvantages of the price-ratio method.**—We see that the price-ratio method when accurately used, is a very complicated one,* whereas the aggregate-expenditure method is quite simple. When the price-ratio method is applied to a large number of cases it becomes so tedious, as to be quite impracticable, and moreover, the large amount of arithmetical work involved is both useless and avoidable.

Since any accurate determination of a price-index, or of its reciprocal, viz., the purchasing-power of a money-unit, requires that the regimen shall be predetermined (whether we use price-ratios or not), it is much more simple, and is more accurate to apply the prices to the items constituting the composite-unit, and thus find the aggregate-cost for each of the dates. The quantities of these items to be taken into consideration may be called the *mass units of the regimen* ; or the *elements of the composite-unit*. Let the prices at dates 1 and 2, be $a_1 = a\,(1 - x)$ and $a_2 = a\,(1 + x)$, $b_1 = b\,(1 - y)$ and $b_2 = b\,(1 + y)$, and so on. Then we have :—

$$(11)\ldots\ldots p \equiv \frac{a\,(1 + x)}{a\,(1 - x)} = \frac{1 + x}{1 - x};\quad q \equiv \frac{b\,(1 + y)}{b\,(1 - y)} = \frac{1 + y}{1 - y};\ \text{etc.}$$

We can then shew that the aggregate-expenditures method gives for the logarithm of the price-index, I,

$$(12)..\log I = 2\left\{\frac{\alpha ax + \beta by + ..}{\alpha a + \beta b + ..} + \frac{1}{3}\left(\frac{\alpha ax + \beta by + ..}{\alpha a + \beta b + ..}\right)^3 + \frac{1}{5}\left(\frac{\alpha ax + \beta by + ..}{\alpha a + \beta b + ..}\right)^5 + ..\right\}$$

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* The controversy between Jevons and Laspeyres (see Labour Report No. 1, already referred to, appendix pp. xxxv., xxxvi.) shews how easily it is to fall into error in regard to the significance of the matter.

The method of price-ratios, with arithmetic means of the relative expenditures for the same mass-units, gives, however, for the logarithm of the price-index J :—

$$(13)..\log J = 2\left\{\frac{\alpha ax+\beta by+..}{\alpha a+\beta b+..} + \frac{1}{3}\left(\frac{\alpha ax^3+\beta by^3+..}{\alpha a+\beta b+..}\right) + \frac{1}{5}\left(\frac{\alpha ax^5+\beta by^5+..}{\alpha a+\beta b+..}\right) + ..\right\}$$

The difference between the two is :—

$$(14).....\log. I - \log J = \frac{2}{3}\left\{\left(\frac{\alpha ax+\beta by+..}{\alpha a+\beta b+..}\right)^3 - \left(\frac{\alpha ax^3+\beta by^3+..}{\alpha a+\beta b+..}\right)\right\} + \frac{2}{5}\left\{\left(\frac{\alpha ax+\beta by+..}{\alpha a+\beta b+..}\right)^5 - \frac{\alpha ax^5+\beta by^5+..}{\alpha a+\beta b+..}\right\} + \text{etc.}$$

This difference must *always* be rather small in practical cases ; but, whether it be so or not, the correct method is that of aggregate expenditures (or costs). The above formulæ shew that the price-ratio method, used in the way indicated, must always give results that are substantially identical with the aggregate-expenditure method.

It might be thought that, in certain cases, the two methods could be combined. There could, of course, be no objection to so doing, provided the different results be properly weighted. To ascertain the proper weights to apply, however, is not a simple matter, and it is preferable to include all necessary items in the composite-unit, for what they are worth, and to employ the aggregate-expenditure method.

The great advantage of the aggregate-expenditure method over all others is, that one sees at every moment what is being done, and *if any item be uncertain, it is very simple matter to compute the effect of the uncertainty, and to see what its influence is on the result.* With price-ratio methods we are *working* throughout "*in the dark*," and it can only be because of this that some economists have ventured the opinion that one may neglect weights altogether. This proposition arises from a wrong apprehension of the essence of the problem.

Price-indexes can be deduced accurately, and as has been shewn, have a definite significance when properly ascertained. Even if, for individual researches, price-ratios are ascertained (in order for example to follow the price-movement of any particular commodity) it is still desirable to found a price-index upon definite quantities of the individual items and applying the prices to these for the different dates compared, to base the price-indexes on the aggregate-cost.

15. **Practical difficulties in obtaining accurate price-indexes.**—The most pressing difficulty, as regards obtaining an accurate price-index, arises from that of obtaining accurate records of price. Were it not excluded by its magnitude, the ideal method would be to obtain for each commodity the actual quantities sold at each individual price, so as to get the "frequency-distribution" according to price, and thus to find from this the average price over all.* This, however, is quite impracticable, and it becomes therefore necessary to adopt a method that may be expected to give substantially, though not exactly, the same result. If the difference between the ideal and practicable methods is quite negligible, the theoretical defects of the latter are of no moment. By selecting in each locality (village, town, city, etc.) a sufficient number of establishments to cover the ordinary range of fluctuation of prices, and using the establishments patronised by the greatest number of inhabitants (rejecting, for example, those who sell only the finest class of goods as well as those who cater for the lowest class), we are able to obtain what is probably very approximately the weighted-mean of the prices : and this is doubtless a *very* close approximation to what would be found by the larger and impracticable operation. In the working sheets, one of which is necessary for each commodity, there is thus a continuous record, not only of the prices given by a single establishment, but by all establishments, and these records are available for comparisons one with another at each date or for successive dates. By this means any peculiarity can be at once detected, and if due to error is easily corrected on enquiry.

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* In certain cases, however, we might need to base our deductions on the "mode" or predominting values not upon the average values.

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In principle, the selected establishments automatically constitute a " fair sample" of the prices throughout the community immediately concerned. Strictly speaking, prices so found probably constitute the *mode* rather than the mean of the prices; in other words they represent the price paid by the greatest number rather than the price paid on the average. The difference, however, between the average and the most frequent or predominating price (the " mean" and the " mode") is probably quite negligible, even if it were without question desirable to adopt the mean; and moreover, whatever the difference, it is doubtless very nearly the same in amount and sign on each occasion. For this reason *errors or rather differences of this type have ordinarily no sensible effect on a price-index.* Suppose, for example, the true result was even as much as 10 per cent. in error by defect on one occasion, and 17 per cent. by defect on another, and that the item in which this occurred was about the order of 3 per cent. of the whole value of the composite-unit. A result of this kind would be given if, for example, the composite-unit consisted of 3 lbs. of the item under consideration, and if 10d. per lb. were entered instead of 11d. per lb. on the first occasion, and 18d. per lb. instead of 21d. per lb. on the second occasion. Thus if the aggregates for the two occasions were given as 1170 and 1920 they should have been 1173 and 1929. Thus the price-indexes would be :—

Erroneous = 1920 ÷ 1170 = 1641.0; Correct 1929 ÷ 1173 = 1644.5; a difference of only 3.5 in 1640, or say 2.1 per 1000.*

Returning to the question as to whether the use of the " average" or " mode" is prefereable, it may be observed that in investigations of the character under review, we are concerned rather with the usage of the greatest number than with the usage of the average, so that those in circumstances of penury or luxury are advisedly excluded as of relatively minor sociological interest.

It may be observed that errors of price are readily detected: this is illustrated in the following example from actual returns from persons K,L,M, and persons P,Q,R. The following two series of returns were sent in by persons supplying prices on 15th of each month, the first for potatoes, the second for kerosene :—

Persons.	June.	July.	Aug.	Sept.	Persons	June.	July.	Aug.	Sept.
K	1/-	10½d.	10½d.	10½d.	P	2/4	2/4	2/4	2/4
L	1/-	10½d.	10½d.	1/6*	Q	2/3	2/3	2/3	2/3
M	1/-	1/-	1/-	1/-	R	2/4	2/4	7d.†	2/4

As each person furnishing a return is required to state if there is anything special in the price, the note to the price marked * above, happened to be that the price was a " cut-price : " hence if a difference was to be expected the price given should have been lower than the others. On referring the question back to the person concerned it turned out that, by an oversight the price was for 28 lbs., not for 14 lbs. Thus the correct price was 9d. In the second case, the price-marked†, the returns for August disclosed the fact that one retailer quoted 7d. per gallon for kerosene compared with 2/4 and 2/3 quoted by the other retailers. On inquiry it was discovered that by mistake the price *per quart* had been quoted instead of the price *per gallon*. These are typical examples of the way in which the continuous record on the " working" sheets enable accuracy to be secured.

16. **Character of items in composite-unit.**—The items in a composite-unit are of three principal kinds :—

(i.) Those which are immediately *wholly* consumed in the act of using; such, for example, as foods, fuel, lighting, rent, amusements, educational expenses, etc. (Strictly those that are consumed rapidly).

(ii.) Those which, immediately, are only partially consumed in the act of using, such as boots, hats, clothing generally, instruments of locomotion, carriages, motors, etc. (Strictly those that are consumed slowly.)

(iii.) Those which are not consumed but which represent past expenditure that would otherwise bring interest, for example, houses, land, etc., life memberships, and entrance-fees giving right to benefits for life, etc.

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* Or more generally 10 per cent., 17 per cent. and 3 per cent. = 0.10, 0.17 and 0.03. The effect would be $0.1 \times 0.03 = 0.0030$ and $0.17 \times 0.03 = 0.0051$: thus the two aggregates when corrected differ only 3.0 and 5.1 respectively in 1000. The purchasing-power deduced from these (ratio of the corrected numbers) differ only 1005. 1/1003.0 = 1.0021, or 2.1 per 1000.

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The different characters of these several kinds of items which go to make up a composite-unit must be considered in determining the weight to be attributed to the items, but they must virtually all be reduced to the quantity used in some unit of time; for a unit, number of individuals, say per average person per week (or per month, per year, etc.). Thus, taking 1 "average person" and 1 month as the units, we need for (i.) the quantity of each food used, the cost for fuel, lighting, rent, amusements, education and so on, *per "average person"* per month.

For (ii.) we require the length of time the articles last with all circumstances concerning their maintenance in use. Let us suppose, for example, that a pair of boots costs 22/6, and with one repairing at 5/6 lasts 8 months: the cost would be 22½ + 5½) ÷ 8 = 3/6 per month (neglecting interest charges, which at most would increase this expenditure to about 3/7 or 3/8). Similarly, if a collar cost 1/- and lasted afterwards for 23 launderings (that is 24 periods in all), and the laundering cost 2d. per occasion, the real cost for collars would be (12d. ÷ 24) + 2d. = 2½d. for the average length of time the collar is worn. If this be one day, the cost for collars would be 7 × 2½d. = 1/5½ per week. If the collar cost 2/-, the other facts being the same, the cost is (24d. ÷ 24) + 2d. = 3d. × 7 = 1/9 per week: that is, although the difference in price was 100 per cent. on the cost at the first date, the real rise (for the composite-unit) would only be as 5 : 6, that is, 20 per cent.

Similarly, if a shirt lasted 19 launderings after the first, or say 20 periods, each laundering costing say 4d., its original cost being at one date say 4/-, and at a later date 6/-, and if it be worn two days between each laundering, the cost for the periods commencing at the two dates would be (48d. ÷ 20) + 4d. = 6.4d. each laundering, and (72d. ÷ 20) + 4d. = 7.6d. each laundering; that is in pence, 22.4 per week and 26.6 per week respectively. Thus, although the rise in *initial cost* was 50 per cent., the actual increase in the *usage cost* of shirts to the wearer is only as 6.4 is to 7.6, that is 16 : 19 or 18.75 per cent.

If facts of this character are *not* taken into account, *very erroneous results will arise in applying the rise in prices to questions of the cost-of-living.* The above illustrations shew that all circumstances tending to lengthen usage, and all costs of maintaining the commodity in a state of fitness for use are part of the consideration of its *real* as compared with its *nominal* cost. It is, therefore, important not to confound the two in price-indexes designed to be applied to questions of the cost of living.

In regard to (iii.), if an expenditure be incurred which confers some benefit virtually in prepetuity (*e.g.*, land appropriately used, a farm, etc.), the ordinary rate of interest on its capital value may at least be allowed as its current or usage value. Thus suppose an expenditure of £1000 is incurred, the interest thereon, payable annually, being 5 per cent., the money-value of the benefit may be regarded as £50, which for a weekly-unit is equivalent to £50 × 7 ÷ 365¼ = 19s. 2d. per week. If this is to be regarded as accounted for either weekly or monthly (to accord with the period for the other elements of the composite-unit) it will be a somewhat smaller sum, for example, if it is considered to be provided monthly say about 18s. 9d., or if weekly 18s. 8½d. (the difference being due to a compound-interest correction).

A common case which would have to be accounted is where, say, a workman's house costs say £400; its maintenance costs £4 per annum each year thereafter. Let us suppose the house to be valueless (of negligible value), at the end of 25 years. If we could disregard interest questions over so long a period as in the illustration of (ii.) above, the total cost would be £400 + 24 × £4 = £496. For this a benefit exists for 25 years = 1304 weeks; hence this would be equal to 7s. 7¼d. per week.

Over so long a period, however, *the interest element cannot be ignored* as in (ii.), because it sensibly affects the question of the value equivalent to the outlay. If we assume an interest rate of 5 per cent. (payable annually), the whole outlay is equivalent to £400, together with an annuity of £4 payable at the end of every year for 24 years. The return equivalent to this is an annuity payable say weekly (this is virtually a continuous annuity), extending over 25 years. This gives a value of 12s. 1d. per week. If we should have, in addition, to take account also of the value of the land on which the house was situated, we should have to add, if this were held in fee-simple, the value of the interest only: and if this were to be accounted weekly it would be somewhat less than the annual value of the interest. For example, if the land were worth £200 (interest payable annually at 5 per cent.), it would mean 3/10 per week, or allowing for its being accounted weekly, say 3/9 per week.

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In a looser kind of way, property owned can always be credited with what it would bring in the way of rental, less costs of maintenance : hence for practical purposes the rentals of properties of like kind could be assumed to apply.

17. **Changes in composite-unit.**—The composite-unit, on which a price-index has to be based, may become permanently inapplicable, in the course of time, through changes in ordinary usage ; or it may become temporarily inapplicable in abnormal times, for example, when through famine, war, etc., a commodity is not available or is so high-priced that substitutes must be found. In both cases price-indexes in the ordinary sense become unmeaning. This is seen at once by considering an extreme case. We could not, for example, compare price-indexes for a community whose staple diet consisted of wheaten bread, meat, butter, etc., with one whose staple diet consisted of rice, fish, etc. We have, therefore, to realise that the significance (or the reality of the meaning) of price-indexes disappears in proportion as the regimens for two dates or for two communities, etc., materially differ. As already pointed out in such instances, we can have only a pseudo-continuity. This can be clearly represented by the following scheme :—

	Commodities disappearing.	Common to both dates.	Newly introduced.
Date 1800	A B	F G H I J K L M N O P Q	R S T U V W
Date 1900		F G H I J K L M N O P Q	

From this schematic representation we can see at once that if the number of commodities disappearing (A to E), and the number of new commodities introduced (R to W) are small compared with the number of commodities common to the two dates (viz., F to Q), the price-index is still fairly significant.

It has to be remembered that as commodities disappear there is no sense in which price can be attributed to them, and that, while they are disappearing, price may become uncertain. There are commodities for example which have a vogue at a particular time. Human fashions change and these commodities disappear. Initially their prices are fanciful ; intermediately they may be said to be normal, and in the disappearing stage they are irregular and uncertain. Hence there is no way in which we can make price-indexes, extending over long periods of time, significant in relation to one another over such periods.

It is, of course, obvious that an unequivocal price-index could be determined on the basis of the commodities F to Q in the above example, and this would have some value for remotely distant periods (*e.g.*, 1800 and 1900), but for current usage a price-index based upon the limited number when a larger number is *ex hypothesi*, available, would be subject to the criticism that it did not represent the actual usage of the community. A method, therefore, must be devised for passing from one regimen to another, and we shall next consider that problem.

The change may moreover be not merely one in the kind of commodities but also a change in proportionate usage of the original commodities, owing to the introduction of substitutes, as for example, the replacing of, say, oatmeal by some form of wheaten or maize-meal as a breakfast-food. It has to be remembered that, statistically, the fact of commodities changing is known necessarily after the change has occurred ; for that reason it is possible to effect revisions of price-indexes in such a manner that they may become of higher value in respect of quasi-continuous record.

18. **Revision of price-indexes to secure high accuracy over long periods.**—Continuity of price-indexes of the highest order of precision can be secured by varying the regimen so that at all times it represents actual usage.

Whatever the actual usage may be at two dates O and N, say, the *minimum change* of that usage would be when each element is made to increase (or diminish) by equal amounts in each interval of time (year, say). This is expressed by the quantities for the successive N years being made for each item as follows :—

Date	0	1	2	3	....	N
Quantity of item	a	$a \pm x$	$a \pm 2x$	$a \pm 3x$	....	$a \pm nx = a'$

Thus the amount to be added each year is $(a' - a)/\mathrm{N}$, and this includes the cases when either a' or $a = 0$, that is when either a commodity disappears from usage or a new one is introduced. Thus, for the index of date 1, we may use the series of quantities changed (1/N)th part (or we may use the original series ; the former is usually preferable because when a regimen or composite-unit has been ascertained it is referable to a past period). By this process the pseudo-continuity of the whole series of price-indexes is made of the highest possible value since the basis is changed from year to year by insensible steps ; but it requires always that the prices should be available. In order to shew the effect of such a method we may take what may be regarded as an extreme case ; that is, one which will accentuate the differences between the ordinary method and the method to be used for revisions, the purpose of which is to make the pseudo-continuity as satisfactory as is possible.

In the table hereunder let the commodities in the composite-unit be those shewn in column (I), the denomination of the unit being as shewn in column (II.). Seven commodities, not used at the first date (1908), (*i.e.*, are not in composite-unit A), are used at the last date (1913), and seven which existed originally (*i.e.*, are in A) disappear from the composite-unit of the last date (1913), (*i.e.*, from F). We make the changes for the intermediate years linearly but by whole integers ; that is, as near as this limitation will admit, the change from regimen A to regimen F is by equal amounts from year to year. We have also arranged that the items in F (*i.e.*, for 1913) shall have the same aggregate cost at 1913 prices as the items in A at the 1913 prices. This is to preserve the continuity, as previously indicated.

Table Shewing Marked Changes in the Composite-unit.

Commodity. (I.)	Unit. (II.)	A. 1908.	B. 1909.	C. 1910.	D. 1911.	E. 1912.	F. 1913.
Bread	lb.	..	167	334	501	668	836
Flour	,,	300	242	184	126	68	10
Tea	,,	..	6	12	18	24	30
Coffee	,,	30	24	18	12	6	..
Sugar	,,	300	320	340	360	380	400
Rice	,,	50	40	30	20	10	..
Sago	,,	8	6	5	3	2	..
Jam	,,	..	15	29	44	59	73
Oatmeal ..	,,	35	28	21	14	7	..
Raisins ..	,,	..	3	6	9	12	14
Currants ..	,,	14	12	9	6	3	..
Candles ..	,,	30	24	18	12	6	..
Soap	,,	50	53	56	59	62	64
Potatoes ..	,,	1,000	897	794	691	589	487
Milk	qrt.	400	360	320	280	240	200
Butter	lb.	..	11	22	33	44	55
Cheese	,,	..	3	6	9	12	15
Eggs	doz.	9	11	13	15	16	18
Bacon	lb.	20	24	28	32	36	40
Beef	,,	..	70	140	210	280	350
Mutton ..	,,	750	600	450	300	150	..
Rent	week	46	46	46	46	46	46

We shall first shew the effect of adopting the different regimens or composite-units, viz., A to F, as bases. By applying actual average Australian prices for the commodities to each of these and summing them we obtain for the total costs the following results, viz. :—

Actual Cost of each Composite-unit at Average Current Prices in Australia during the Years 1908-1913.

Composite Unit.	1908.	1909.	1910.	1911.	1912.	1913.
A	**148339**	144607	153940	158472	171482	171029
B	148250	**144787**	153684	158203	171019	171130
C	148080	144888	**153347**	157855	170474	171456
D	147924	145002	153025	**157518**	169940	171190
E	147641	144985	152562	157047	**169273**	171109
F	147374	144988	152125	156597	168627	**(171027)**

From these actual aggregate costs during the years 1908-1913 for the series A to F of groups of commodities, we can analyse the effect of the different bases upon the price-indexes. Let us first observe the difference of the effect of using one or the other of these various composite-units throughout the whole period. Owing to the fact that the variations of price are not uniform throughout this will be best shewn by making say A = say 10000, and then seeing what ratio the expenditures on (or cost of) the others bear to this. We do this for each year. The results are as shewn in the table hereunder.

Relative Money-value of each Composite-unit in each Year, 1908-1913.

Composite Unit.	1908.	1909.	1910.	1911.	1912.	1913.	Average
A	10000	10000	10000	10000	10000	10000	10000
B	9994	10012	9983	9983	9973	10006	9991
C	9983	10019	9961	9961	9941	10025	9981
D	9972	10027	9941	9940	9910	10009	9966
E	9953	10026	9910	9910	9871	10005	9945
F	9935	10026	9882	9882	9834	10000	9926
Averages ..	9973	10016	9946	9946	9921	10007	9968.2

The most striking fact is that the different regimens (composite-units A to F) give results which are so nearly equal in value for the same year. Yet these units are, as we have seen, by no means identical. It is to be remarked that they vary in different ways in the several years. Thus for 1909, A is cheapest, but dearest for any other year except for the year 1913, when it equals F, but is dearer than B, C, D and E. This equality with F, however, as already pointed out, was secured by so taking the number of units of the new regimen that it would give that result in the final year, and this has the effect of keeping them nearly equal in cost throughout. This was done in order to secure aggregates that preserved the pseudo-continuity in the index-numbers. It may again be repeated that *the actual number of units do not affect the index-numbers* : it is only the proportions subsisting among them which can produce a variation in the determination of a price-index.

Next let us see the effect of applying the several regimens A to F throughout the period 1908 to 1913. This is best effected by making the result for 1908 equal to 10000 throughout. Thus we get :—

Price-indexes with Different Composite-units as bases. (1908 = 10000).

Composite Unit.	1908.	1909.	1910.	1911.	1912.	1913.	Averages.
A	10000	9748	10378	10683	11560	11530	10649
B	10000	9766	10367	10671	11536	11543	10647
C	10000	9784	10356	10660	11512	11579	10648
D	10000	9802	10345	10649	11488	11573	10643
E	10000	9820	10333	10637	11465	11590	10641
F	10000	9838	10322	10626	11442	11605	10639
Averages	10000	9793	10350	10654	11500	11570	10644.5

The striking fact is that the indexes calculated by means of any one of the different regimens are almost identical, thus shewing that *considerable variations in the composite-unit do not produce large changes in the price-indexes.* This important fact is generally overlooked, and is often ignored by investigators.

19. **Price-indexes with a periodic change of the composite-unit.**—If it be assumed that, on the average, a certain composite-unit applies to two periods of time in succession, it is obvious from what has preceded that it will be the best basis on

which to estimate the price-index ratio. Theoretically, the smaller the periods the better will be the result. It is also evident from what has preceded that no sensible advantage would be secured by making these periods less than 1 year. We shall therefore, from the preceding table of expenditures, trace the consequence of making the change annually. This is done by dividing the numbers in heavy type in the table shewing the "actual cost of each composite-unit during the years 1908-1913," into the quantities next on the right. The quotients are the ratios of the price-indexes. Hence if we make the first 1000 and multiply by those successive ratios we get the various price-indexes on the basis that 1908 is 1000 (or any other unit or value we may choose to adopt). Thus :—

$$144607 \div 148339 = .974842\,; \quad 153684 \div 144787 = 1.061449\,;$$

$$157855 \div 153347 = 1.029397\,; \quad \text{etc.}$$

Hence $.974842 \times 1000 = 974.842$; this by $1.061449 = 1034.745$; and this again by $1.029397 = 1065.163$.

In this way we get the results shewn on line 2, or variable A′ in the table below. If we were to start with 148250 and use (in the same way throughout) the quantities under the lines, we should get the results shewn on line 3, or variable B′.

Again if we were to use the composite-unit A throughout, we should get the results on line 1, or if the composite-unit F, the results on line 4.

In regard to the price-indexes in the preceding table, it is self-evident that 9838 on line F is a less accurate result than any one of the three above it because the composite-unit, used in calculating it, represented actual usage not earlier than 1913, and for the same reason the values 11560 for 1912 or 11530 for 1913 are *less reliable* than any values below them, the composite units of actual usage in the years 1912 to 1913 differing greatly from A.

Various Estimations of Price-indexes, 1908-1913. (1908 = 10000).

Line.	Composite-unit	1908.	1909.	1910.	1911.	1912.	1913.
1	A	10000	9748	10378	10683	11560	11530
2	Variable A′	10000	9748	10347	10652	11492	11616
3	Variable B′	10000	9766	10348	10640	11468	11632
4	F	10000	9838	10322	10626	11442	11605
5	½ (A + F)	10000	9793	10350	10654	11501	11565

From the considerations above indicated, it is readily seen that the results shewn on either line 2 or line 3 should be adopted in preference to those on lines 1 or 4, but whether those on line 2 should be preferred to those on line 3 or not, will depend on which regimen should be regarded as the most nearly that covering the two periods compared.

Finally, if we were to apply the mean of the two regimens A and F, the expenditures would be 147960, 144896, 153135, 157635, 170163, and 171120, and these would give the results on line 5. These are obviously *accurate enough to be adopted* for all practical purposes, and shew that we are not really concerned with small variations in a regimen, and that *meticulous accuracy in regard thereto is quite unnecessary.* The mean would correspond to the mean of the items on vertical lines C (1910) and D (1911) in the table "shewing marked changes in the composite-unit." In brief, so long as the composite-unit represents the mean usage over any limited period (such as 5 years or 10 years), *the one unit may be applied throughout* and may be abandoned for a new unit for the period next following on. This is self-evident if it be remembered that the preceding tables might be taken to represent changes which take place every quinquennium or decade.*

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* The general case has been fully established by my article in Labour and Industrial Report, No. 1, Commonwealth of Australia. Appendix, sections 8, 10 and 11, pp. xlix. to lv., Dec. 1912.

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20. **Omission of items from composite-unit.**—The omission of items from a composite-unit is necessary for the following reasons, viz., that :—

(i.) They cannot be specified and identified with sufficient precision for compared places or periods.

(ii.) The quantity used is so insignificant that their inclusion or omission does not make a sensible difference in the results.

(iii.) They are uniformly constant in value.

The effect of ignoring a number of commodities is *virtually* equivalent to assuming that their variations of price are, *on the average*, identical with the variations, on the average, of those included.

In regard to (i.), it is to be observed that if the limits of uncertainty are great, it is preferable to omit the item. This has already been partially considered in section 1 of this Part. The principle of gauging whether the results should be used or not is the following :—

(*a*) the range of uncertainty must be specifiable both in the positive direction and in the negative.

(*b*) If the price-index, deduced by omitting the item, lies outside the range of the price-indexes when it is included, the omission is unsatisfactory, and the mean of the range should be adopted, with the uncertain item (or items), introduced.

In regard to (ii.), it may be said that the omission is desirable since the introduction of a number of insignificant items greatly increases the volume of work with no sensible advantage.

In regard to (iii.), whether constant items should be introduced or not, this depends upon whether they may be set off in a general and somewhat loose estimate—any other being impossible—against items which have probably departed from the price at the earlier date *beyond* the mean amount. If not, the following scheme of modifying the price-index deduced may be adopted :—

Let E denote the total *value* of the composite-unit, the quantities of the items being now, however, not merely relatively, but as near as possible absolutely correct : let K denote the aggregate of constant expenditure and s the portion which may be supposed to vary as E. Then, putting $s = S_0 / E_0 = S_1 / E_1$, wherefore $S_1 = S_0 E_1 / E_0$, the proper index is given by—

$$(15)\ldots\ldots I = \frac{E_1 + S_1 + K}{E_0 + S_0 + K} = \frac{E_1 (1 + s) + K}{E_0 (1 + s) + K}$$

which is readily calculated, and does not require that S and K should be very exactly known. These could of course be expressed as ratios. Suppose, for example, E_0 is about 60 per cent., S_0 about 30 per cent., and K about 10 per cent.* at the original date, this last expenditure being *ex hypothesi* unchanging. In the ten years 1907-1917 the ratio of E_1 to E_0 became 1.5, that is, the price-index increased 50 per cent. Thus if E_0 be 100, $E_1 = 150$, and the index as ordinarily calculated is 1500, that is, 1000×1.5. The adjusted index, *on the above assumption*, would be (supposing the unrecognised portion of the total (S) to increase in the same ratio as that for which the record exists, but excluding, however, the constant 10 per cent.) :—

$$I' = \frac{150 + 75 + 10}{100 + 50 + 10} \times 1000 = \frac{235}{160} \times 1000 = 1468.8 \text{ instead of } 1500.$$

Suppose that the unrecognised portion S were *also constant*, the result would be—

$$I'' = \frac{150 + 50 + 10}{100 + 50 + 10} \times 1000 = \frac{210}{160} \times 1000 = 1312.5 \text{ instead of } 1500.$$

Further, suppose that the unrecognised portion actually increased 100 per cent., *i.e.*, became as much as twice what it originally was, the result would be

$$I''' = \frac{150 + 100 + 10}{100 + 50 + 10} \times 1000 = \frac{260}{160} \times 1000 = 1625.0 \text{ instead of } 1500.$$

The first result (I') is, of course, the mean of the two last ; that is, it is $\frac{1}{2}(I'' + I''')$.

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* This is about its maximum value.

Where indexes are given only to three places (as is often the case) the first difference is clearly seen to be small: thus we have 150 and 147 in the example first considered: the constant element being 10 per cent. of the total expenditure at date 0, the reduction of the price-index has been only about 2 per cent.

In the latter cases which may be regarded as extreme possibilities, the effect has been to reduce the price-index 150 to 131, or to increase it to 163; that is, to reduce it 13 per cent. or increase it 9 per cent. This, however, is the consequence of two things, viz., to constancy in the 10 per cent., together with a change in the 30 per cent. (at date 0) proportionally different to the change in the 60 per cent. (at date 0).

21. **Variations of price-levels.**—One form of *price-index*, to which reference has been made in section 5, and which serves a useful purpose, may be formed in the following way:—

Let the quantities of exports (or imports) of a given period have attributed to them (*a*) the actual prices obtaining for the period under review, and (*b*) the prices they had on a previous period with which it is desired to compare them. (More strictly it is a comparison of the present with the past.) This comparison informs us what *would have been* the aggregate value of the commodities of the former period if, their prices being as they actually were, they had been in volume what they are in the second period, and therefore the ratio of this to the total for the second period. To distinguish these from price-indexes generally, we shall call them *price-levels.** The basis of comparison is thus always made the "regimen" or composite-unit of the period which is to be compared with some former period. It is obvious that the indexes thus obtained are not comparable among themselves, because the composite-unit used each year is special to itself; that is, for three successive years, it would be:

$$a \text{ of } A+b \text{ of } B+c \text{ of } C+\text{etc.}\ ;\quad a' \text{ of } A+b' \text{ of } B+\text{etc.}\ ;\quad a'' \text{ of } A+b' \text{ of } B+\text{etc.}$$

The small letters denoting quantities and the capital letters commodities.

Obviously we can make any one of the sets of quantities a, b, c, etc.; a′, b″, c′, etc.; the basis. If we postponed the comparison till the end of a quinquennium decade, etc., the *best* basis would be the mean (geometric) of the whole period, or we would "step up" the composite-unit as described in section 18.

Example of price-levels.—Price-levels of exports for Australia are prepared for *five groups* of commodities, viz., those embraced under the following headings:—

(i.) **Agricultural production.**—19 items embracing—1, fodder; 2, fruits repulped; unprepared grain, such as—3, barley; 4, beans and peas; 5, maize; 6, oats; and 7, wheat. Prepared grain such as—8, bran, pollard and sharps; 9, flour; and 10, oatmeal; 11, hay and chaff; 12, hops; 13, jams and jellies; 14, linseed cake and oil cake; 15, onions; 16, potatoes; 17, cane sugar; 18, wines (fermented); 19, wines, sparkling.

(ii.) **Pastoral productions.**—16 items embracing—20, lard and refined fats; meats—21, bacon and hams; preserved by cold process—22, beef; 23, mutton and lamb; 24, pork; 25, rabbits and hares; 26, meat preserved in tins; 27, miscellaneous meats; 28, hair; 29, gluepieces and sinews; skins including—30, cattle and horse; 31, rabbit and hare; 32, sheep skins with wool; 33, tallow; wool, viz., 34, greasy, and 35, scoured and tops.

(iii.) **Dairy productions.**—6 items, embracing—36, butter; 37, cheese; 38, eggs; 39, honey; 40, preserved milk; 41, beeswax.

(iv.) **Mineral productions.**—9 items, embracing—42, britannia metal, etc.; 43, coal; 44, coke; 45, copper ingots and matte; lead including—46, pig in matte; and 47, sheet and piping; 48, salt; 49, kerosene shale; 50, tin ingots.

(v.) **Miscellaneous.**—19 items, embracing—51, ale and beer; 52, tanning bark; 53, biscuits; 54, candles; 55, Portland cement; 56, confectionery; 57, copra; 58, unrefined glycerine; 59, gums; 60, lime-juice; 61, manures; oils, etc.; in bulk including—62, coconut; 63, linseed; 64, tallow; 65, sandalwood: soaps, 66, ordinary; and 67, perfumed; 68, pearlshell; and 69, tortoiseshell.

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* This method is that adopted by the British Board of Trade, and hitherto in the Official Year Book of the Commonwealth of Australia. Its defects are pointed out later.

These groups represented about 84½ per cent. of the total export of merchandise during 1915-16, though the actual items were only 69 out of 545; the balance of 476 items represented only the small value of about 15½ per cent.

The ratio of the values of the groups to the value of the total varies of course with the prices. This is shewn in the following table :—

Price-levels of 1915-16 compared with 1901, on Actual Exports of 1915-16.

Class of Production.	No. of Items.	VALUE OF EXPORTS OF 1915-16.				Price-levels, 1901=1000.
		At 1901 Prices.		At 1915-16 Prices.		
		£	%	£	%	
Agricultural ..	19	5,478,627	13.68	10,567,031	16.42	1928.8
Pastoral ..	16	21,355,362	53.31	33,570,881	52.14	1572.0
Dairy	6	776,926	1.94	1,159,857	1.80	1492.9
Mineral ..	9	5,116,696	12.77	7,894,448	12.26	1542.9
Miscellaneous ..	19	1,108,267	2.77	1,195,461	1.85	1078.7
Total Nos. used	69	33,835,878	84.47	54,387,678	84.47	1607.4
Remaining Nos.	476	6,221,006	15.53	9,999,624	15.53	1607.4
Total exports ..	545	40,056,884	100.00	64,387,302	100.00	1607.4

Since the quantities are the same (those of trade-year 1915-16) in both cases, the columns of percentages shew that the mere variations of price as between 1901 and 1915-16 make sensible, though not large difference, in the ratio of the value of each class of production to the total value.

The large differences in the price-levels (final column) shew that, while there was a general increase in prices for the different classes of production, it was by no means similar in amount.

Price-level comparisons could, of course, also be made on the basis of the actual exports of the earlier period, attributing thereto the prices of the later period. This will, of course, give a different result, and in order to shew the nature of the difference, the following table has been prepared :—

Class of Production.	QUANTITIES AS IN TRADE-YEAR 1901.			QUANTITIES AS IN TRADE-YEAR 1915-16.		
	Values at 1901 Prices (as Recorded.	Values as at 1915-16 Prices.	Price-levels 1901 =1000.0	Values at 1901 Prices.	Values at 1915-16 Prices (as Recorded).	Price-levels 1901 =1000.0
	£	£		£	£	
Agricultural	4,508,717	8,315,780	1844.4	5,478,627	10,567,031	1928.8
Pastoral ..	18,945,409	30,321,569	1600.5	21,355,362	33,570,881	1572.0
Dairy ..	1,486,033	2,213,902	1489.9	776,926	1,159,857	1492.9
Mineral ..	3,161,806	3,979,150	1258.5	5,116,696	7,894,448	1543.1
Misc'll'neous	667,721	747,121	1118.9	1,108,267	1,195,461	1078.9
Total ..	28,769,686	45,577,522	1584.2	33,835,878	54,387,678	1607.4

Price-levels such as these give, of course, an *unequivocal* answer only to such a question as " what would have been the value of the imports of any particular period if the quantities have been what they were at another, *e.g.*, a later period," or *vice-versa.* But if they are to be applied in any endeavour to compare the quantities of export what may be called the " generalised quantity" of the exports, they do *not* give an unequivocal answer, and hence are not of the same value as price-indexes. Thus :—

$$\frac{\text{Value of exports 1901 at 1901 prices}}{\text{Value of exports 1915-16 at 1901 prices}} = \frac{£28,769,686}{£33,835,878} = \frac{1000.0}{1176.1};$$

which implies that the generalised quantity was 1.1761 greater in 1915-16 than it was in 1901, while on the other hand the ratio—

$$\frac{\text{Value of exports 1901 at 1915-16 prices}}{\text{Value of exports 1915-16 at 1915-16 prices}} = \frac{£45,577,522}{£54,387,678} = \frac{1000.0}{1193.3};$$

implies that the generalised quantity of exports was 1.1933 greater in 1915-16 than in 1901. It is obvious that there is no reason for preferring one of these results to the other, and the difference between the two is not insensible.

Price-levels, therefore, cannot be safely used if it be desired to compare with any precision the 'generalised quantities' of the exports for two different years. They furnish a rough idea, of course, and that is all.

Nor can we take the mean of these two results as satisfactory, viz., 1000.0 : 1184.7, as will appear later.

22. **Advantages of a price-index over a price-level.**—Consistently with what has preceded, we shall call a price-index (in contradistinction to a price-level) a result furnished by adopting, for the quantities to which the prices of two different dates are to be applied, *a common basis,* which ordinarily should be as near the actual quantities on the one date as on the other. Two methods are suggested ; one is to adopt the average quantities taken over the period in question, the other to take the average quantities only for the two years to be compared. We shall adopt a later method and shall put in comparison therewith a variation of the former type, viz., the averages for two periods, viz., 1906-10 inclusive and 1911 to 1915-16 inclusive.

Comparison of Price-indexes for Exports on Several Bases.

CLASS OF PRODUCTION.	QUANTITIES ADOPTED AS BASIS (COMPOSITE-UNIT) ARE THE ANNUAL AVERAGES OF—								
	Years 1901 and 1915-16.			Yrs. 1906, 1907, 1908, 1909, 1910.			Yrs. 1911, 1912, 1913, 1914, 1915-16.		
	At 1901 Prices.	At 1915-16 Prices.	Price-index.	At 1901 Prices.	At 1915-16 Prices.	Price-Index	At 1901 Prices.	At 1915-16 Prices.	Price-Index.
Agricult'ral	4,990,417	9,442,904	1892	2,752,047	5,108,245	1856	2,226,963	4,062,260	1824
Pastoral	20,350,306	32,296,652	1587	24,645,201	39,330,601	1596	27,533,825	43,634,000	1585
Dairy ..	2,235,099	3,317,734	1484	2,845,746	4,218,527	1482	2,726,528	4,074,991	1494
Mineral	4,142,930	5,942,739	1434*	5,711,553	8,010,463	1403*	5,466,074	7,992,513	1462*
Misc'llane's	888,353	971,071	1093	888,523	992,317	1117	961,886	1,042,545	1084
Total	32,607,105	51,971,100	1593.8	36,843,070	57,660,153	1565.0	38,915,276	60,806,309	1562.5

* This difference was due mainly to the difference in the part that lead played in the exports.

The above table shews that the price-index, based upon the quantities which were the mean of those of the years compared, was 1593.8 : that based upon the mean, of the quantities for the years 1906 to 1910, was 1565.0 ; and that based upon the mean of the years 1911 to 1915-16 was 1562.5. The mean of the two latter, viz., 1563.7, differs very little from either, but differs sensibly from the first, viz., 1593.8.

The price-indexes based upon the quantity-averages over the whole of the years 1906 to 1915-16, are the means of the two latter price-indexes in the table above ; that is they are 1840, 1590, 1488, 1432, 1100, and for the total 1563.7. We thus see that, when the quantities are averages taken over a sufficient period of time, the results are almost identical, and, therefore, we can ascertain, in an unequivocal way, the ratios of the " general quantity" of the exports on any two occasions.

This satisfactory agreement is dependent upon the fact that, when calculated on the basis of the quinquennial averages of quantities, *the bases themselves are likely to be nearly in agreement.* There appears to be a rough periodicity in exports, the period being about 7½ years, and consequently not only are the sharp differences characterising individual years smoothed out, but so also is the systematic fluctuation—at least in part. Thus, the quantity-groups of the 1906-10 average (giving one basis) do not differ greatly from the quantity groups of 1911-15-16 average (giving the other basis). They were not, however, identical as may be seen by comparing one basis with another. This difference is reflected in the ratios of the prices of one group for the two years, to be compared according to one or the other set of quantities.

Thus the prices for 1901 agricultural production, on the 1906-10 quantities basis, and on the 1911-15-16 basis were respectively £2,752,047 and £2,226,963, their ratio being 0.8092. The prices for the same group for 1915-16 on the same two bases were respectively £5,108,245 and £4,062,260, their ratio being 0.7952, instead of 0.8092. The difference of either from the mean (0.8022), is small; it arises from the lack of absolute identity in the *mutual proportions* of the nineteen (19) individual items (see para. (i.) page 43) constituting the group. The comparison for the whole series is as follows:—

Groups.	Agricultural.	Pastoral.	Dairy.	Mineral.	Miscellaneous	Total.
Basis 1906 to 1910	.8092	1.1172	.9581	.9570	1.0826	1.0562
Basis 1911 to 1915-16	.7952	1.1094	.9660	.9976	1.0506	1.0546

The preceding figures shew that a price-index has a perfectly general and unequivocal significance, whereas a price-level is a very arbitrary form of comparison, and its use in any attempt to deduce the "generalised-quantities" of imports or exports is invalid. It will often, of course, give a rough approximation, whereas a price-index, based upon the average amounts of the commodities taken over an extended period, will give the most satisfactory result which it is possible to obtain. In so far as it is practicable to give any general form of expression to the quantity of exports, when values are available, the correction by means of a price-index is justified, and we are not justified in using a price-level as the means of correction.

We do not propose to consider here the nature of a hypothetical generalised quantity in detail. It will suffice to say that although it is intrinsically impossible to compare commodity-aggregates that are not identical in character, we can make a sort of pseudo-comparison on the supposition that both are of the nature of the mean composite-unit used in determining the price-indexes. It is in this sense that we ascertain the "relative-quantities." The validity of the comparison is based upon the fact that the commodities on each occasion do not differ materially from the mean; thus the comparison has considerable value, and is of the nature of an index. In any case it may be said that it is the only comparison possible.

23. **On the discontinuity of price-indexes.**—The fact that, with change of usage, price-indexes cannot—in any accurate sense of the term—be regarded as strictly continuous, has already been referred to. It has also been shewn that the nature of such continuity as is possible is that price-indexes, based upon aggregate costs or expenditure of composite-units are really fully comparable only when the composite-units are sensibly identical in character. Abnormal times, therefore, involving departures from ordinary usage constitute a similar difficulty. Consequently if, in order to represent actual usage, the composite-unit has to be materially changed, it may become necessary to indicate that the price-indexes during the abnormal period are not strictly comparable in the full sense of the term with the earlier and later price-indexes. We have shewn that the only valid basis of comparison between two years (say) in which the usage is different, is the mean-regimen of the two. Let us suppose that each year these regimens are changed, there will then be only one computation of aggregate expenditure for the first, and for the final year (*i.e.*, when normal conditions, say, are restored), and two for each of the intermediate years. These aggregate expenditures may be denoted by

$$A_0\ ;\ A_1,\ A_1'\ ;\ A_2,\ A_2'\ ;\ldots\ldots;\ A_{n-1},\ A_{n-1}'\ ;\ A_n.$$

Thus the price-indexes* are given by—

$$(16)\ldots\ldots I_{01}=\mathrm{A}_1/\mathrm{A}_0;\quad I_{12}=\mathrm{A}_2/\mathrm{A}_1';\ldots\ldots I_{n-1,n}=\mathrm{A}_n/\mathrm{A}_{n-1}'$$

Writing this *in extenso* we have—

$$(17)\ldots\ldots I_0 = \frac{\mathrm{A}_1}{\mathrm{A}_0}\cdot\frac{\mathrm{A}_2}{\mathrm{A}_1'}\cdot\frac{\mathrm{A}_3}{\mathrm{A}_2'}\ldots\ldots\frac{\mathrm{A}_n}{\mathrm{A}_{n-1}'} = k\,\frac{\mathrm{A}_n}{\mathrm{A}_0}\text{, say,}$$

It is obvious from this, that perfect continuity is *not* necessarily restored, when the regimen again becomes normal, but in all practical cases it must be nearly restored: *i.e.*, k must be very nearly unity. For if we make the cost of $\mathrm{A}_1' = \mathrm{A}_1$, $\mathrm{A}_2' = \mathrm{A}_2$, etc., by changing all the quantities of the items in the same proportion, all the intermediate values in the above equation cancel. If they have not been made equal, suppose $\mathrm{A}_1' = m\mathrm{A}_1$; $\mathrm{A}_2' = n\mathrm{A}_2$, etc., then we have the above equal to—

$$(18)\ldots\ldots I_{0n} = \frac{\mathrm{A}_1}{\mathrm{A}_0}\cdot\frac{\mathrm{A}_2}{m\mathrm{A}_1}\cdot\frac{\mathrm{A}_3}{n\mathrm{A}_2}\ldots\ldots\frac{\mathrm{A}_n}{s\mathrm{A}_{n-1}} = \frac{\mathrm{A}_n}{\mathrm{A}_0\,(m\,.\,n\,.\,.\,s)}$$

s denoting the last factor necessary to make the denominator equal to the preceding enumerator.

Hence $k = 1/(m.n.\ldots.s)$, and ordinarily this must be nearly unity. We shall later illustrate this by an example. If k be not unity, it is obviously desirable to alter the intermediate values linearly so that the value of $\mathrm{A}_n/\mathrm{A}_0$ is the price-index I_{0n}. Then we have the highest degree of consistency attainable, and the price-indexes may be regarded as continuous.

This procedure may be called "closing up on to the normal values." In order to illustrate this process, and to shew that the results are *essentially* discontinuous, and further that the whole process of closing up is arbitrary, though the best possible, let us take an extreme case, viz., that illustrated in the following tables :—

Commodity.	Actual Usage, say, for 1 Week, in lbs.					Usage-basis for Calculating Price-indexes.					
	1914.*	1915.	1916.	1917.	1918.*	1913-4	1914-5	1915-6	1916-7	1917-8	1918-9
Bread ..	5	5	0	4	5	5	5	2½	2	4½	5
Meat ..	8	3	0	2	8	8	5½	1½	1	5	8
Rice ..	0	2	5	2	0	0	1	3½	3½	1	0
Fish ..	0	5	10	7	0	0	2½	7½	8½	3½	0

* 1913, 1919, 1920, etc., supposed identical with this.

The actual usage for the successive years is that given on the left-hand portion of the table. For the purpose of comparison we must take—as indicated hereinbefore—the means of the regimens of the adjoining years as the basis on which the price-indexes of one as compared with the other can be established. These are shewn in the right-hand portion of the table. Let us suppose that the prices for these years were as in the left-hand side of the table hereunder, then the aggregate expenditure would be as shewn in the right-hand portion of the same table.

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* The notation I_{ai} denotes the price-index for year i with reference to year a as the basic year.

Prices and Aggregates of Expenditure.

Commodities.	AVERAGE PRICES (SAY PENCE PER LB. DURING YEAR :—							AGGREGATE-EXPENDITURE FOR EACH YEAR :—							
	1913	1914	1915	1916	1917	1918	1919	1913	1914.	1915.	1916.	1917.	1918.	1919.	
Bread	3.4	3.5	4.5	3.9	3.8	3.5	3.4	5860	: 6310 5535	.. : 7395	.. ..	.. ..	.. ..	.. ..	=1000 : 1076.8 =1000 : 1336.0
Meat	5.2	5.7	7.9	9.0	8.7	5.7	5.2	..	..	4860	: 5285 4890	.. : 5165	.. ..	.. ..	=1000 : 1087.4 =1000 : 1056.2
Rice	..	2.5	3.0	3.1	3.3	3.0	..	1000 1000	: 736.1 : 928.7	.. =	.. ..	7370 ..	: 5425 6310	.. : 5860	
Fish	..	1.6	2.0	2.5	2.8	2.0	..	..	..	..	..	..	..	..	

For simplicity we make the prices in 1919 as in 1913, and hence if the price-index for 1913 is 1000 we should obtain 1000 also for 1919. The ratios in the above table are shewn on line "Factor (1)" line (ii.) in the table below. They give—by forming the continuous products—the results on line (iii.). If these are linearly changed by altering each by the multiples of (1129.6—1000) ÷ 6, that is multiples of 21.6, we get the corrected indexes on line (iv.).

These are equivalent to changing the factors (1) on line (ii.) into the factors (2) shewn on line (v.), and a comparison of the two shews the real amount of change required, which is by no means negligible in this extreme case, but would be ordinarily very small.

Correction of Price-indexes on Closing up on a Final Value.

(i.) Year ..	1913.	1914.	1915.	1916.	1917.	1918.	1919.
(ii.) Factors (1)* ..		1076.8	1336.0	1087.4	1056.2	736.1	928.7
(iii.) Price-indexes as deduced	1000	1076.8	1438.6	1564.4	1652.4	1216.3	1129.6
(iv.) Price-indexes corrected	**1000**	**1055.2**	**1395.4**	**1499.6**	**1566.0**	**1108.3**	**1000**
(v.) Factors (2)* ..		1055.2	1322.4	1074.7	1044.3	707.7	902.3
(vi.) Ratio of Expenditure	1000	1076.8	1261.9	901.9	881.4	925.8	1000

* For comparison. Factors (2) do not agree with Factors (1) because of the necessity of the corrections.

That the ratios of the mere aggregates of expenditure *with changed regimens* are valueless, is shewn by line (vi.), which gives the relative expenditures on the mean regimens, the initial one being taken as 1000.

24. **Substitution of equivalent Items in a composite-unit.**—Whenever, in respect of purpose and quantity, any new item of a composite-unit is identical with that of the commodity which it wholly replaces, the price of the new commodity, may, for some purposes merely replace that of the old one, and in such a case the original mass-units would continue in force. Of course for other purposes this procedure would be invalid. It might, for example, be valid for index-prices which had reference to expenditure on the *cost of living*; but if the *standard-of-living*, either from the economic standpoint or that of food-value, were involved, this might or might not be invalid according to circumstances. We reach, therefore, the idea of a composite-unit that may be appropriately changed periodically without losing materially its significance.

In attempting, in any comprehensive way, to deduce price-indexes for commodities generally, or for some particular purpose, therefore, it may be necessary to arrange for the substitution—to some extent—of what may be called equivalent items, viz., items which, though not absolutely identical, may be regarded as identical without in any way vitiating the deduced indexes. In other words we must consider the substitution of composite-unit 2 for composite-unit 1, which may be represented as follows :—

Elements of original unit (1) :—A B C D E F G H I J, etc.
Equivalent unit ....(2) :—A B C′ D E F′ F″ G H′ H″ H‴ I J, etc.

in which the substitutions are C′ for C ; F′ and F″ for F ; H′, H″ and H‴ for H ; and so on ; the remaining elements—A B D E G I J, etc., being unchanged. The significance of such changes may be illustrated in the following way :—Suppose the usage of a community changed by abandoning C (or wheaten bread) for C′ (or whole-meal bread) without changing the quantity used, C′ could probably replace C, that is to say, the price of C′ could be entered as if it belonged to the original element C of the composite-unit. For example, if in any community butter was completely abandoned for margarine, the margarine might be treated exactly as though it were butter, and its price entered. If the substitute *wholly* replaced the original commodity, and was used in like quantity, the mass-units (or quantities) of the items in the composite unit would remain unchanged, in which case the general economic effect might, *for most purposes, be regarded merely as a change in the price of the original items.* Of course if the quantity *used* be changed, the mass-unit of the commodity will be changed, and consequently for the date of change, two aggregate costs will have to be made out, one with the original item, and one with the substituted item (if, of course, their prices are not identical) the one for carrying the index up to the date, the other for carrying it forward. We may take another illustration. Suppose that H represents oatmeal, and that its use is abandoned for a more varied regimen, consisting of say oatmeal itself in less quantity, wheaten meal and maize-meal. We should have in cases like this also to get out new units of usage, and two aggregate-costs for the date of change, one based upon the original regimen ; one based upon the substituted regimen. In this way we ensure a high degree of real continuity in the succession of price-indexes.

PART IV.

THE SIGNIFICANCE OF PRICE-INDEXES AND CONCLUSIONS.

SYNOPSIS.

1. Further observations upon the continuity of price-indexes.
2. The combination of price-indexes for various groups.
3. The illusion of weighted price-indexes.
4. The aggregate-expenditure or aggregate-cost method is alone valid.
5. Application of price-indexes to questions of cost-of-living.
6. True and unweighted average prices and their influence upon price-indexes.
7. Consequences of error of applying unweighted means of prices.
8. Common errors in regard to price-indexes.
9. Price-indexes and cost of living in abnormal times.
10. Conclusions.

1. **Further observations upon the continuity of price-indexes.**—" Is there any sense in which a long series of price-indexes can be said to be rigorously continuous ? " This is an important question, because during the last few decades the usage of commodities has been changing rapidly. We must, therefore, be prepared to make any future scheme for deducing price-indexes continually conform to actual usage, and, therefore, change with it. The mode of doing this has already been indicated, and no better way can be deduced than that of gradually changing the items in the schedule together with their quantities, for on these the total cost is estimated. The principle underlying this procedure may be stated in the following terms :—

(i.) The commodity-basis, upon which a price-index for any particular purpose is based, must represent (both in respect of the items enumerated, and the quantities assigned to them) the usage for a given unit of time by the "average individual" of the particular class concerned. Thus if it be for the whole community it would include all commodities and the average usage of the whole population.

(ii.) In questions where the standard of the commodity used (standard-of-living) is immaterial, what may be called "equivalent commodities" can be substituted for those which they must replace, despite the fact that the grade or quality is changed and that the price has been varied in consequence.

But this substitution cannot be effected if in the question to be answered, the element of changing quality or grade is material. In other words, the indications based upon price-indexes must always be interpreted with the actual facts under review, and in relation to them. Strictly they will apply only to these.

The question naturally suggests itself, " Why can we not ascertain the *price-indexes for classes of commodities*, and by properly weighting them obtain their weighted mean, and in this way get true continuity for the grand aggregate which they make up ? " Moreover, " Would not the continuity of the price-indexes so ascertained be perfect ? " is also a question which suggests itself. What has preceded, however, shews clearly that it would not ; that in whatsoever manner we proceed, the results, apparently continuous, are, if we have a change in composite-unit constituting the basis of the comparisons, really discontinuous. It is, of course, obvious that a continuity, sufficient for practical purposes, can be had so long as the composite-unit is only slightly changed. But, as already explained, it cannot be too distinctly understood that the significance of price-indexes fades away as, with the lapse of time, the composite-unit changes. There is a sense, however, in which continuity could rigorously exist. Suppose, for example, that all commodities increased or diminished in price at a uniform ratio in equal intervals of time, and that this was true not only of disappearing commodities, but also of new commodities entering into usage. This would be a case of rigorous continuity, although the composite-unit, on which the computation was based, might have been changing the whole time. It is equally obvious that as this condition is approached a continuity is implied, the rigorousness of which depends upon the degree of approach. We shall shew in the next section that we may combine different price-indexes so as to get a single one covering the combined groups. In both cases the continuity is perfectly rigorous only if the composite-unit, on which the results are based, remains unchanged; and it is only approximate, if there be any change therein. Nevertheless, its defect in approximation will be of small significance *if the change in the composite-unit is insignificant.*

2. **The combination of price-indexes for various groups.**—Let us suppose that price-indexes have been determined for independent groups of commodities, that is groups in which the same commodity does not reappear, as, for example, in the case of food, clothing, housing, etc.; and that the question of confirming these results arises, so that we can obtain a price-index applicable to the whole. The only *perfectly satisfactory* method is to add the aggregate expenditures (computed on the proper relative bases) and from these find the ratios of these aggregates. If we can know the relative-expenditures on the *initial* (*or basic*) *date* we can obtain a rigorously accurate result by using these as weights. So even if we know approximately the relative expenditure on any date we can deduce the price-index over all. For the rigorous result we must have the relative expenditure for the date which we make the basis as we shall shew.

In Australia for the years 1914 and 1917 the aggregates of expenditures on the composite-units (i.) groceries, (ii.) dairy products, (iii.) meat, and (iv.) house-rents, were as follow:—

Composite-unit.	Aggregates of Expenditure.		Ratios of Expenditure to Total.		Price-indexes.	
	1914.	1917.	1914.	1917.	1914=1.	1917=1.
Groceries ..	56588	67509	.24155	.24611	1.19299	0.83823
Dairy products	37688	44540	.16087	.16238	1.18180	0.84616
Meat	41919	64311	.17893	.23445	1.53417	0.65182
House-rents ..	98078	97943	.41865	.35706	0.99862	1.00138
Grand aggregate	234273	274303	1.00000	1.00000	1.17086	0.85407

The several price-indexes are the aggregate expenditure of 1917 divided by those of 1914. Now if we *weight* these by the relative expenditures in 1914, we get 1.17086, that is—

$$1.19299 \times .24155 + 1.18180 \times .16087 + 1.53417 \times .17893 + 0.99862 \times .41865 = 1.17086.$$

Similarly if we make 1917 the basic year, and make the weights 0.24611, etc. (*i.e.*, the relative expenditures in the 1917 column) we get, as we should, the reciprocal of 1.17086, viz., 0.85407; that is—

$$.83823 \times .24611 + .84616 \times .16238 + .65182 \times .23455 + 1.00138 \times .35706 = .085407$$

The reason of this is readily demonstrated. Let the several aggregate expenditures be denoted by G, D, M, H and T; thus $T = G + D + M + H$, with suffixes (say 4 and 7) to denote that they belong to particular years (1914 or 1917). Thus we have for the price-index over all for 1917, with 1914 as the basic year:—

$$(19) \ldots \frac{G_7}{G_4} \cdot \frac{G_4}{T_4} + \frac{D_7}{D_4} \cdot \frac{D_4}{T_4} + \frac{M_7}{M_4} \cdot \frac{M_4}{T_4} + \frac{H_7}{H_4} \cdot \frac{H_4}{T_4} = \frac{G_7 + D_7 + M_7 + H_7}{T_4} = \frac{T_7}{T_4}.$$

Similarly, for the price-index over all for 1914, with 1917 as the basic year, we have

$$(20) \ldots \frac{G_4}{G_7} \cdot \frac{G_7}{T_7} + \frac{D_4}{D_7} \cdot \frac{D_7}{T_7} + \frac{M_4}{M_7} \cdot \frac{M_7}{T_7} + \frac{H_4}{H_7} \cdot \frac{H_7}{T_7} = \frac{G_4 + D_4 + M_4 + H_4}{T_7} = \frac{T_4}{T_7};$$

that is to say we get the result for aggregate-expenditures, and if we make the weight the relative expenditures in the basic year to which the price-ratios are referred. The method is then *rigorously accurate* : it gives exactly the same result as, and is arithmetically equivalent to, the aggregate expenditure method. The "formula" clearly shews the nature of the process, viz., that multiplying by the proper weight gives, as a product, that portion of the price-index over all, which is due to the particular commodity of group of commodities, as the case may be. Unless, however, the price-indexes for the several groups of commodities (or price-ratios for single commodities) are based upon common usage for both dates and unless among the several groups the relation usage is correct not only in itself but also in relation to the items in other groups, the result is incorrect. We cannot, therefore, write as a general formula :—

$$(21) \ldots\ldots (I_1 w_1 + I_2 w_2 + \ldots\ldots + I_n w_n) \,/\, (w_1 + w_2 + \ldots\ldots + w_n) = I$$

I being price-index over all, and I_1, I_2, etc., being the price-indexes for the several groups 1, 2, etc., *unless both* I and w *are deduced consistently with equations* (19) *and* (20).

3. **The illusion of weighted price-indexes.**—The general result of the earlier part of the preceding section seems—on a superficial view—to suggest that a formula of the type of (21) should be satisfactory. We shall examine this question closely, as it is responsible for a good deal of loose thinking, and for the fabrication of price-indexes, the value of which is greatly discounted by the improper method of their computation. Consider the weights for the several groups in the preceding table. If these were calculated for 1914 and 1917, they would be as follow :—

Group (or Commodity).	Percentage of Expenditure upon					Index over all.*
	G.	D.	M.	H.	Total.	
Relative expenditure weights, 1914 ..	24.15	16.09	17.89	41.87	100.00	1170.84
" " " 1917 ..	24.61	16.24	23.44	35.71	100.00	1201.74
Mean of 1914 and 1917	24.38	16.17	20.66	38.79	100.00	1186.27
Approximate weights over all years ..	25	15	20	40	100	1181.80

* Basic year 1914 = 1000.00.

These weights do not differ considerably and, in the ordinary loose idea of weighting would, most likely, be set down as 25, 15, 20 and 40 per cent. These values are set out in the last line in the above table. If we take the weights as they were in the basic year we get 1170.84 for the price-index, which is correct (the difference .02 being due to expressing the weight to one decimal less). If we take the weights as in 1917, we get 1201.74 for the value of the price-index ; if we take the mean of 1914 and 1917 we get 1186.27, while if we take the roughly approximate weights we get 1181.80. These differ quite appreciably, and thus disclose the fact that, if we desire precision, the loose conception of weighting is not sufficient. We must *not accept*, therefore, as has so often been done, *fixed combining weights* for particular commodities (or groups of commodities), and apply these to the price-ratios (or price-indexes of the groups).

In the preceding illustration G, D, M, and H, could of course represent individual commodities, instead of groups of commodities, and their price-indexes would then be price-ratios for these commodities. Thus we see that, contrary to what is commonly assumed, *price-ratios cannot be combined by adopting some fixed set of 'combining weights,'* applicable to them generally.

4. **The aggregate-expenditure or aggregate-cost method is alone valid.**—We have now shewn that there is one, and only one, definitive and accurate way of measuring the variations in the purchasing-power of money for a specific purpose, and that is to formulate an appropriate schedule of commodities and usage-quantities (not expenditures), and to use the cost of this *composite-unit*, defined by the schedule and its quantities, as the *gauge or basis of measurement*. With changing usage this must be changed from time to time, but such changes are not inconvenient, because they need not be very frequent. The loose notion that the attempt to deduce price-ratios from weighted price-ratios gives a wider field and greater generality to a result, is only founded on illusion. An index so obtained is ambiguous or indefinite in its significance, and its numerical uncertainty is much greater than ordinarily supposed.

The only other method that can lay claim to precision is the method based on geometric means of price-ratios weighted (as powers) with the mean relative expenditures of any compared dates. This method approximates very closely to the method of comparing the cost of the composite-unit at two different dates.

5. **Application of price-indexes to questions of cost-of-living.**—The cost of living is, of course, a flexible, not a fixed quantity. It depends upon several factors, for example :—

(i.) The general purchasing-power of money.

(ii.) The available margin between income and the cost of necessaries of life.

(iii.) Skill (*a*) in modifying one's regimen in order to deal with fluctuations in the prices of particular commodities to the best advantage, and (*b*) in the substituting of one commodity for another.

(iv.) Economic adaptability, *e.g.*, thrift, suitable selection of foods, etc.

From (ii.) it is evident that when there is *no margin*, and prices rise, (iii.) and (iv.) above are necessarily most in evidence.

A very large proportion of any population modifies its regimen according to price, and the season of those commodities, which fluctuate greatly, in available quantities, price, *e.g.*, in respect of fruit, vegetables, eggs, game, and so on, buying less, or none at all, when prices are high, laying in supplies when they are low, etc.

Owing to this, the average use of food-commodities of a number of persons exhibits fairly well-defined seasonal fluctuations, these fluctuations being most strongly marked in the food-regimens of the most intelligent, thrifty and careful, and least marked on the whole, in the regimen of those to whom thrift is, from any cause, virtually of small moment. For this reason, if a constant regimen or composite-unit be adopted as a basis for measuring the purchasing-power of money in the case of foods, it might be urged that it does not represent actual usage at particular parts of the year ; and consequently price-indexes based thereon are only hypothetically correct ; * they do not correspond to actual facts. In a measure this is true, as regards cost of living, and most true in the case of those whose household economies are most intelligently directed to securing the fullest possible advantages of fluctuations in the prices of food-commodities. Nevertheless, if the usage of commodities is the average for the particular population (or class within the population) the error in using the constant regime throughout is small in the average result for a year. We shall now shew that even then a slight error exists.

6. **True and unweighted average prices and their influence upon price-indexes.**—When we have ascertained, for any unit of time (say 1 year) embracing all fluctuations of price, the actual usage, and apply thereto the *average-price*, computed by allowing equal weight to the price, ascertained at equal intervals throughout the year (say weekly or monthly) we do *not* get the true expenditure *unless the usage is constant* throughout the year. For if the quantities of commodity A are a_1, a_2, etc., to n terms, and the prices are p_1, p_2, etc., the true *average price* (p_0) is the product of the prices by the quantities purchased divided by the total quantity, viz. :—

$$(22) \ldots\ldots p_0 = (a_1p_1 + a_2p_2 + \ldots\ldots + a_np_n)/(a_1 + a_2 + \ldots\ldots + a_n)$$

and *is not* merely the mean of the prices (p'_0), viz.,

$$(23) \ldots\ldots p'_0 = (p_1 + p_2 + \ldots\ldots + p_n)/n$$

unless, that is, the quantities purchased (a_1, a_2, etc.) are all equal, in which case $p_0 = p'_0$. Thus we are not rigorously exact in applying the average-price as ordinarily ascertained, viz., the mean of the prices taken at equal small intervals of time, unless the usage is constant. It is, of course, quite *impracticable to apply the correction for variable usage for a large series of commodities.*

7. **Consequences of error of applying unweighted-means of prices.**—Practically the differences between weighted and unweighted *means of prices* are not seriously large, though in individual cases they may attain to the total difference between the lowest price and the true average, as for example, if a person bought a

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* Of course if the usage is maintained constant they are absolutely correct.

year's supply of eggs, or of fruits, etc., at the lowest price, and preserved them. The error of assuming uniform usage of a commodity, that is, of supposing that the relative quantity based upon a year's total, may probably have applied thereto the unweighted-mean price is merely the difference between the weighted and unweighted means for the commodity. It gives an *appreciable advantage* only to those who are sufficiently watchful to take advantage of the periods of low prices, and whose forethought and circumstances enable them to lay in supplies. Consider an extreme where a commodity cost say 2/9 for 1 month, and 9d. for the rest of the year,* and let us suppose the usage to be as follows :—

10 persons use 1 per month for 11 months only = 110, costing ...... 990d.
1 person uses 1 per month for 12 months = 12, costing ...... 132d.
11 persons use $\frac{122}{132}$ per month for 12 months = 122, costing ...... 1122d.

The true average cost is, therefore, $9\frac{12}{61}$ pence. The unweighted average of the prices is $(11 \times 9 + 1 \times 33) \div 12 = 11$ pence, which applied to the total represents $11 \times 12 \times 11$d. $= 1452$d., which is in excess 330d. or about 13 per cent. Suppose that expenditure on this commodity constituted 2 per cent. of the total expenditure,† the effect would be to cause an error of only 0.26 per cent. in the price-index. Such an error, though not exactly an insensible one, is practically negligible, and in all actual cases errors of this kind would be much smaller.

8. **Common errors in regard to price-indexes.**—It is obvious, and it was shewn in Part II., section 11, that the cost of two composite-units somewhat of the same general character must often differ sensibly. This has frequently given rise to an impression that the price-indexes may be greatly prejudiced by this fact. This is an illusion arising from the failure to recognise that the result is of a differential character. The percentage of change in the aggregate-cost of a composite-unit is *not* the measure of change in the price-index. Thus suppose a change increases the aggregate cost 5 per cent. on one occasion only, and let us suppose that the increase of the price-index is 30 per cent. Then we should have price-index $130 \div 100 \times 1000 = 1300$; with a correction of 5 to both the 100 and 130 it is $135 \div 105 \times 1000 = 1286$; that is to say, the result has been affected only about 1 per cent. More generally, if one composite-unit gives expenditures A and B on two occasions, and a second composite-unit is about m times the former (in which m may have any value whatsoever), and if also minor differences of price, etc., cause differences mh and mk in the two, we shall then have for the price-indexes :—

$$A/B\,; \text{ or } (A + h)\,/\,(B + k), \text{ or } (mA + mh)\,/\,(mB + mk)$$

Thus on effecting the divisions we have :—

$$(24)\ldots\ldots \quad \frac{A}{B}\,; \quad \text{or } \frac{mA + mh}{mB + mk} = \frac{A}{B}\left\{1 + \left(\frac{h}{A} - \frac{k}{B}\right) + \epsilon\right\} \quad ;$$

in which ϵ is a quantity depending upon the powers of the very small quantities h/A and k/B. Since h and k are relatively small to A and B, the whole quantity between the braces is very nearly unity, and is in general negligible.

9. **Price-indexes and cost-of-living in abnormal times.**—War conditions, droughts, failures of crops, and other economic disturbances, while they do not *always* produce such a bouleversement as to vitiate all price-relations, and even make impossible supply of necessary commodities, *often* do so. In such an event the method of computing price-indexes in not nullified but the price-index loses temporarily (or it may be permanently) its significance, because the usage of the community must perforce be altered. The basic composite-unit no longer represents the actual usage of the community. For this reason no price-index has any valid general application in such a case. The practical solution of questions of cost-of-living in abnormal times may turn not upon price-indexes, but upon available quantities of commodities, their food-values, their prices *inter se* ; or finally, in extreme cases (famine, devastation by war, etc.) the practical solution may be reduced to the very limited possibilities of the situation.

10. **Conclusions.**—The following conclusions are either directly indicated in the preceding examination of this question, or they are necessary consequences of what has been established :—

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* Say eggs at 2s. 9d. per dozen, and later at 9d.

† Eggs represent about 1 to 2 per cent. of the expenditure for a whole year.

(i.) The purchasing-power of money for any two localities or any two dates varies according to its specific purpose, that is according to usage in respect of the scope, character and quantities of the commodities used.

(ii.) To accurately measure the purchasing-power appropriate for each such purpose, a composite-unit must be employed, which unit must consist of definite quantities of a specific series of commodities, and must, moreover, represent actual usage.

(iii.) The ratio of the purchasing-power between any two localities or dates is the reciprocal, or inverse of the cost, of the appropriate composite-unit (either for the two localities or the two dates.)

(iv.) Variations of purchasing-power are best shewn by means of price-indexes, which represent the relative cost in the second case (second date or locality) as compared with the first, that in the first or basic date (or locality) being denoted by 100, 1,000, or 10,000, etc., according to the degree of precision required.

(v.) Price-indexes or ratios can be accurately combined by weighting them according to the relative expenditures on each, in the basic year only.

(vi.) It is preferable, however, to combine the aggregates of expenditure directly.

(vii.) Better, and of course more intelligible, results can be obtained by making the composite-unit include all essential commodities for the specific purpose of the index.

(viii.) The applicability of price-indexes is strictly limited to the specific purpose, which constituted the guide in formulating the composite-units on which they were founded.

(ix.) Price-indexes can be combined, if, among them all the weighting has been based upon the expenditure of the basic year, the relative quantities indicating the actual usage.

(x.) The aggregate-cost of (or expenditure on) the composite-unit is not only the only accurate way of finding a price-index, it is also arithmetically the most simple.

(xi.) In practical cases where the question of *standard* of living is affected, we must take care that, in general, the commodities are also accurately identifiable in respect of quality or grade.

(xii.) Where these are with difficulty identifiable, it may be better to exclude the commodities, or to ascertain the effect on the price-index which their uncertainty introduces.

(xiii.) Accurately computed price-indexes, from the cost of definite composite-units, though rigorously applicable only to the units on which they have been based, can be regarded as generally applicable to any case of like nature.

(xiv.) They can also be regarded as applicable whenever there is no reason to suppose that the change of price of the unincluded commodities sensibly differs.

(xv.) Whenever change in price affects quantitatively the usage of the several commodities, the only satisfactory basis of comparison is a composite-unit, which is the mean of the usage on the two occasions compared.

(xvi.) The quantities in the composite-unit must be accurate relatively to each other, but are unaffected by any common multiple.

(xvii.) Provided the composite-unit is comprehensive, meticulous accuracy in determining the quantities (or mass-units) of each commodity is unnecessary: they must of course be fairly accurate, however.

(xviii.) Where a commodity changes in grade in such a manner that the old grade disappears and the new grade takes its place, the fact of variation of grade may for most purposes be ignored.

(xix.) Price-indexes designed to indicate what change of wages is necessary in respect of commodities, should be based upon the average usage of the identifiable commodities.

(xx.) Price-variations due to change of grade in commodities, or to changes in the commodities themselves, nullify comparisons, inasmuch as they introduce the effect of change of standard, (*e.g.*, standard of living).

(xxi.) In dealing with price-indexes in relation to questions of a so-called living (or minimum) wage account should be taken of the lowest suitable quality of a commodity, *i.e.*, the commodities may be regarded as made up of two elements, viz., the *necessary element* and the luxury element. The former is alone of moment.

(xxii.) The cost of commodities must be based, not upon mere initial cost, but the cost per some definite unit of time, with all circumstances of usage taken into consideration. Thus the ratio of the initial cost of commodities used for a long time and subject to repair at a moderate cost does not measure their price-relationship.

(xxiii.) Price-indexes deduced on the aggregate-expenditure method, depend, as is obvious, on the precision with which prices are ascertained.

(xxiv.) Thus prices, in order to give results of the highest precision, should be those which constitute a *true average*.

(xxv.) An unweighted average of prices will nevertheless give results which are sensibly correct.

(xxvi.) Price-indexes are fully comparable for any period during which the composite-unit on which they are based not only remains unchanged but also substantially represents the specific usage (general or particular) of the commodity to which it is applied.

(xxvii.) As the commodity-usage changes, the significance of a price-index changes *pari passu*, until finally the index-numbers (say for widely separated dates) are unrelated, *i.e.*, they have no significance in relation to each other.

(xxviii.) Nevertheless, if for points of time not widely separated the composite-units are generally similar, they are significant for most purposes, and may be treated as applicable.

(xxix.) Comparisons of the relationship between money and commodities for widely separated dates, when presumably the composite-units would be very dissimilar, *must be founded, not upon price-indexes, but upon other bases*, since in such cases no common basis exists for the measurement of the purchasing-power of money in relation to commodities.

(xxx.) Although for widely separated dates comparisons can be made between the unit of money, and (*a*) the average cost of living, (*b*) the most frequent expenditure on living, (*c*) the food-values purchaseable with such a unit, and so on, such measurements give results which have no definite and determinable relation to price-indexes.

(xxxi.) In abnormal times, price-indexes cease to have any general significance in the degree the composite-unit, on which they are based, ceases to represent the actual usage of the commodities.

(xxxii.) Any attempt to apply price-indexes to questions concerning the cost of living, must take cognisance of the normality or otherwise of the general conditions.

(xxxiii.) Abnormal times involve the consideration of questions of cost of living upon special bases (*e.g.*, the possibilities of obtaining commodities; the compulsion to change because of extraordinary prices; the possibility of variations of food to secure adequate food-values, and so on.)

(xxxiv.) Attempts to vary the composite-unit for fractions of a year so as to include insignificant changes in the bases for determining price-indexes are impracticable, and make only insensible differences in applications of price-indexes to questions of cost of living.

(xxxv.) So long as the regimen adopted represents approximately the general usage, price-indexes, computed by the aggregate-expenditure method, may be legitimately employed to determine the equivalent wages payment necessary to maintain the same commodity purchasing-value for different periods.

(xxxvi.) The fact that some item or items of expenditure, not included in the regimen adopted, may be shewn to have increased or decreased to a greater extent than that indicated by the price-index does not necessarily vitiate the applicability of the index-number for the purpose of equating wages.

(xxxvii). It is only when the whole of that part of the expenditure, not included in the regimen, has varied differently from the price-index, that the modification of the price-index can be justified.

APPENDIX II.

Retail Prices.—Index-Numbers and Commodities included in Investigations of Various Countries.

Index-Numbers.—Retail

Year.	UNITED KINGDOM.	FRANCE.	ITALY.			BELGIUM.	SWEDEN.	NORWAY.	DENMARK.	HOLLAND.	SWITZERLAND.	AUSTRIA-HUNGARY.			
	Board of Trade.	Government.	Rome to 1911, then 23 Towns.	Milan.	Average.	British Board of Trade.	Average Prices.	1901-11 Christ'nia only; 1911 on, Av. 17 towns.	Average Towns and Districts.	Average Prices in Towns.	Zurich.	Vienna.	Trieste.	Hungary.	Average.
1877 ..	1,378	1,068	..	972	972	..	..	..	..	..	..	902	..	..	902
1878 ..	1,290	1,064	*866	967	967	..	..	..	..	..	..	875	..	..	875
1879 ..	1,232	983	..	956	956	..	..	..	..	..	..	871	..	..	871
1880 ..	1,301	1,028	..	975	975	..	..	..	..	..	..	911	..	..	911
1881 ..	1,282	..	..	914	914	..	..	..	..	..	..	882	..	..	882
1882 ..	1,281	1,019	867	847	857	..	..	..	..	..	..	875	..	..	875
1883 ..	1,279	1,021	851	845	848	..	..	..	..	..	..	872	..	..	872
1884 ..	1,169	983	873	839	856	..	..	..	..	..	..	832	..	..	832
1885 ..	1,062	931	851	840	845	..	..	..	..	..	..	780	758	..	769
1886 ..	1,008	909	844	874	859	..	..	..	..	..	..	795	708	..	751
1887 ..	959	882	833	890	861	..	..	..	..	..	..	801	686	..	743
1888 ..	956	914	829	893	861	..	..	..	..	..	..	813	656	..	734
1889 ..	990	919	798	894	846	..	..	..	..	..	..	816	629	..	722
1890 ..	972	939	801	873	837	..	..	..	..	..	..	787	665	..	726
1891 ..	995	960	833	899	866	..	..	..	..	..	..	799	705	..	752
1892 ..	950	949	830	881	855	..	..	..	..	..	..	796	702	..	749
1893 ..	908	906	847	[illegible]	842	..	..	..	..	870	..	785	678	..	731
1894 ..	867	899	853	[illegible]	863	..	..	..	..	843	..	785	658	..	721
1895 ..	842	885	851	[illegible]	825	..	..	..	..	852	..	797	659	..	728
1896 ..	838	855	848	842	845	..	..	..	..	817	..	781	632	..	706
1897 ..	873	849	834	872	853	..	..	..	..	835	..	796	752	..	774
1898 ..	910	897	848	868	858	..	..	..	..	843	..	802	766	..	784
1899 ..	872	899	868	825	846	..	..	..	..	843	..	794	717	739	750
1900 ..	914	858	879	831	855	781	..	..	..	852	..	784	688	746	739
1901 ..	918	856	884	832	858	787	..	944	..	861	..	781	685	754	740
1902 ..	923	818	901	851	876	793	..	905	..	861	..	778	716	761	752
1903 ..	940	841	888	848	868	880	..	902	..	869	..	795	703	761	753
1904 ..	937	849	875	831	853	848	..	886	..	878	..	827	744	821	797
1905 ..	940	830	877	873	875	855	938	931	*983	861	..	844	797	896	846
1906 ..	932	816	877	869	873	872	967	944	..	869	..	884	780	858	841
1907 ..	961	858	940	874	907	895	1,004	990	*988	896	..	885	825	903	871
1908 ..	983	876	931	929	930	905	1,042	993	..	930	..	922	854	948	908
1909 ..	984	861	952	943	947	938	1,024	952	*995	939	955	939	861	970	923
1910 ..	1,000	893	984	962	873	953	1,011	982	..	983	968	987	827	948	921
1911 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912 ..	1,046	989	979	..	979	1,034	1,066	1,078	1,060	1,035	1,024	1,057	..	..	1,057
1913 ..	1,050	876	999	..	999	..	1,097	1,139	1,073	991	1,035	..	..	..	..
1914 ..	1,068	862	983	..	983	..	1,133	1,149	1,061	1,009	1,021	..	..	..	..
1915 ..	1,359	1,004	1,149	..	1,149	..	1,391	1,374	1,374	1,235	1,300	..	..	..	..
1916 ..	1,658	1,202	1,282	..	1,282	..	1,700	1,957	1,684	1,452	1,509	..	..	..	..
1917 ..	2,056	1,527	..	..	..	..	2,254	2,949	1,983	1,703	1,880	..	..	..	..

* Not included in the World's Index Numbers.

Prices, 1877 to 1917.

Year.	GERMANY									CANADA.	UNITED STATES.	NEW ZEALAND.	AUSTRALIA	WORLD.
	Calwer, 7 Cities.	Zahn, Bavaria.	Bavaria. British Board of Trade.	Baden. British Board of Trade.	Prussia. British Board of Trade.	Wurttemberg. British Board of Trade.	Berlin. British Board of Trade.	Dresden. British Board of Trade.	Averages.	60 Cities.	45 Cities.	4 Cities.	1877-1900 Sydney.† 1901-6 Towns.	Weighted according to Population.
1877	..	..	..	..	790	..	..	..	790	..	..	..	1,042	1,000
1878	..	..	..	..	761	..	..	..	761	..	..	..	992	967
1879	..	..	..	..	730	..	..	..	730	..	..	..	886	930
1880	..	..	..	..	769	..	..	..	869	..	..	..	882	970
1881	..	730	780	..	778	..	..	..	763	..	..	..	889	938
1882	..	727	780	..	769	..	..	..	759	..	..	..	1,087	943
1883	..	738	775	..	787	..	..	..	767	..	..	..	1,065	943
1884	..	727	758	..	747	..	..	..	744	..	..	..	1,010	902
1885	..	741	775	..	737	..	..	..	751	..	..	..	1,038	861
1886	..	745	782	..	718	..	..	..	746	..	..	..	1,086	846
1887	..	758	774	..	711	..	..	..	748	..	..	..	1,008	830
1888	..	763	789	..	709	..	..	..	754	..	..	..	1,004	834
1889	..	764	793	..	773	..	..	..	777	..	..	..	991	842
1890	..	787	826	..	806	..	..	..	806	..	712	..	991	810
1891	..	789	840	..	813	..	..	..	814	..	723	..	973	826
1892	..	800	842	..	800	..	..	..	814	..	710	..	961	814
1893	..	780	817	..	783	..	..	..	793	..	728	..	936	801
1894	..	800	832	..	772	..	..	..	801	..	694	..	822	785
1895	..	773	786	..	758	..	803	813	787	..	679	..	810	771
1896	..	760	790	..	740	..	787	805	776	..	666	..	823	759
1897	..	771	782	782	763	..	811	821	788	..	676	..	813	779
1898	..	802	831	821	790	..	836	849	821	..	697	..	808	804
1899	..	789	800	817	783	779	820	840	804	..	705	..	882	793
1900	879	783	797	797	779	758	820	848	808	*721	720	..	836	798
1901	884	788	800	806	806	791	836	848	820	..	758	..	880	813
1902	891	809	814	825	837	808	852	857	837	..	801	..	929	829
1903	910	807	814	825	818	802	844	848	834	..	802	..	910	834
1904	917	818	829	824	818	804	836	848	837	..	813	..	858	841
1905	950	867	873	852	893	848	885	908	897	*768	814	..	901	862
1906	989	898	891	896	928	886	943	928	920	..	841	..	902	872
1907	973	891	896	894	903	895	967	934	919	..	880	1,010	897	900
1908	981	907	919	912	907	915	984	948	934	..	910	1,011	951	925
1909	1,000	950	954	945	977	946	992	960	966	..	959	989	948	947
1910	1,009	984	978	978	992	984	984	964	984	973	1,008	1,008	970	963
1911	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912	1,082	..	..	1,033	..	..	..	..	1,057	1,027	1,101	1,035	1,101	1,052
1913	..	..	..	..	..	..	..	..	..	1,027	1,104	1,055	1,104	1,039
1914	..	..	..	..	..	..	..	..	..	1,003	1,140	1,117	1,140	1,052
1915	..	..	..	..	..	..	..	..	..	1,101	1,278	1,217	1,278	1,230
1916	..	..	..	..	..	..	..	..	..	1,231	1,324	1,290	1,324	1,379
1917	..	..	..	..	..	..	..	..	..	1,599	1,318	1,384	1,318	1,587

† Food only.

MINISTRY OF CULTURE · GOVERNMENT OF INDIA
GSL

Retail Prices in Various Countries.—Principal Commodities included.

COUNTRY.	UNITED KINGDOM.	FRANCE.	ITALY.		BELGIUM.	SWEDEN.	NORWAY.	DENMARK.	HOLLAND.	SWITZERLAND.	AUSTRIA-HUNGARY.			GERMANY.								CANADA.	UNITED STATES.	NEW ZEALAND.	AUSTRALIA	Total of Commodities.
SOURCE OF INDEX NUMBERS.	Board of Trade.	Government.	Rome to 1911, then 23 Towns.	Milan.	British Board of Trade.	Average Prices.	1901-1911 Christiania. From 1911, 17 towns.	Average Prices in Towns and Districts.	Average Prices in Towns.	Zurich.	Vienna.	Trieste.	Hungary.	Calwer, 7 Cities.	Zahn, Bavaria.	Bavaria. British Board of Trade.	Baden. British Board of Trade.	Prussia. British Board of Trade.	Wurttemberg. British Board of Trade.	Berlin. British Board of Trade.	Dresden. British Board of Trade.	60 Cities.	45 Cities.	4 Cities.	1877-1900 Sydney. 1901-6 Towns.	
No. of Commodities.	23	13	7	9	11	28	15	34	21	17	16	13	59	16	12	9	12	9	11	13	13	27	13	41	28	
Dairy Produce—																										
Bacon	*	—	*	—	*	—	—	*	—	*	*	—	*	—	—	—	*	*	—	*	*	*	*	*	*	15
Butter	*	*	—	*	*	*	*	*	—	*	*	—	*	*	*	*	*	*	*	*	*	*	*	*	*	22
Cheese	*	*	—	—	—	*	*	*	*	*	—	*	*	—	—	—	—	—	—	—	—	*	—	*	*	12
Eggs	*	*	—	—	*	*	*	*	—	*	—	—	*	—	*	*	*	*	*	*	*	*	*	*	*	19
Ham	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	*	*	*	4
Milk	*	*	*	—	—	*	*	*	—	*	*	—	*	—	*	*	*	—	*	*	*	*	*	*	*	19
Animal Produce—																										
Beef	*	*	*	*	*	*	*	*	—	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	24
Lard	—	*	—	—	—	*	—	—	*	*	—	*	*	*	—	—	—	—	—	—	—	*	—	—	—	8
Mutton	*	—	—	—	—	*	*	*	—	—	—	—	*	*	—	—	*	*	*	*	*	*	—	*	*	14
Pork	*	—	—	*	*	*	*	*	—	*	*	—	*	*	*	*	*	*	*	*	*	*	*	*	*	21
Veal	—	—	—	—	—	*	*	—	—	*	*	—	*	—	*	*	*	*	*	*	*	*	—	—	—	13
Agricultural Produce, etc.																										
Bread, Rye	—	—	—	—	—	*	—	*	—	—	—	—	*	—	*	—	—	—	—	—	—	—	—	—	—	4
„ Wheaten	*	*	*	*	*	*	—	*	—	—	*	*	*	*	—	*	*	—	*	*	*	*	—	*	*	19
Flour, Rye	—	—	—	—	—	*	*	—	*	—	—	—	*	—	*	—	—	—	—	—	—	—	—	—	—	5
„ Wheaten	*	—	*	—	—	*	*	*	*	*	*	*	*	*	—	*	*	—	*	*	*	*	—	*	*	19
Oatmeal	*	—	—	—	—	*	—	*	*	*	—	—	—	—	—	—	—	—	—	—	—	*	—	*	*	8
Beans	—	*	—	—	*	*	—	—	*	*	—	*	*	*	—	—	—	—	—	—	—	*	—	—	—	9
Peas	—	—	—	—	—	*	—	*	*	*	*	—	*	*	—	—	—	—	—	—	—	—	—	—	—	7
Potatoes	*	*	—	—	*	*	—	*	—	—	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	20
Rice	*	—	—	*	*	*	—	*	*	—	—	*	*	*	—	—	—	—	—	—	—	*	—	*	*	12
Groceries, etc.—																										
Beer	—	—	—	—	—	*	—	*	—	—	—	—	*	—	*	—	—	—	—	—	—	—	—	—	—	4
Coffee	*	—	—	—	*	*	*	*	*	—	—	—	*	*	—	—	—	*	—	*	*	*	—	*	*	14
Sago and Tapioca	*	—	—	—	—	—	—	*	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	5
Salt	—	—	—	—	—	—	—	*	*	—	—	—	*	*	—	—	—	—	—	—	—	—	—	*	—	5
Soap	—	—	—	—	—	—	—	*	*	—	—	*	*	—	—	—	—	—	—	—	—	—	—	*	*	6
Sugar	*	*	—	—	*	*	*	*	*	—	*	*	*	*	—	—	—	—	*	*	*	*	*	*	*	18
Tea	*	—	—	—	—	—	—	*	*	—	—	—	—	*	—	—	—	—	—	—	—	*	—	*	*	7
Vinegar	—	—	—	—	—	—	—	—	—	—	—	*	*	*	—	—	—	—	—	—	—	*	—	—	—	4
Fuel and Lighting—																										
Coal	—	—	—	—	—	*	*	*	—	—	*	—	*	—	—	—	—	—	—	—	—	*	—	—	—	6
Kerosene or Petroleum	—	*	—	—	—	*	*	*	—	—	*	—	*	—	—	—	—	—	—	—	—	*	—	—	*	8

Commodities represented in less than four Index-numbers omitted in table.

APPENDIX III.

Wholesale Prices.—Index-numbers in Various Countries (1911 = 1000).

Year.	GREAT BRITAIN.				FRANCE.				ITALY.					DENMARK.
	Board of Trade.	Economist.	Sauerbeck and Statist.	Average.	Statistique Generale.	Annuaire Statistique.	Réforme Economique.	Average.	Contract State Institutions.	Contract, War Office.	Necco, Imports.	Necco, Exports.	Average.	Government.
						43			13	8	19	12		38
1840	..	..	1,287	1,287	..	..	..	..	..	..	..	..	..	..
1841	..	..	1,250	1,250	..	..	..	..	..	..	..	..	..	..
1842	..	..	1,037	1,137	..	..	..	..	..	..	..	..	..	..
1843	..	..	1,137	1,037	..	..	..	..	..	..	..	..	..	..
1844	..	..	1,050	1,050	..	..	..	..	..	..	..	..	..	..
1845	..	..	1,087	1,087	..	..	..	..	..	..	..	..	..	..
1846	..	..	1,112	1,112	..	..	..	..	..	..	..	..	..	..
1847	..	..	1,187	1,187	..	..	..	..	..	..	..	..	..	..
1848	..	..	975	975	..	..	..	..	..	..	..	..	..	..
1849	..	..	925	925	..	..	..	..	..	..	..	..	..	..
1850	..	..	962	962	..	..	..	..	..	..	..	..	..	..
1851	..	911	937	924	..	..	..	..	..	..	..	..	..	..
1852	..	815	975	895	..	..	..	..	..	..	..	..	..	..
1853	..	946	1,187	1,066	..	..	..	..	..	..	..	..	..	..
1854	..	1,069	1,275	1,172	..	..	..	..	..	..	..	..	..	..
1855	..	1,034	1,262	1,148	..	..	..	..	..	..	..	..	..	..
1856	..	1,078	1,262	1,170	..	..	..	..	..	..	..	..	..	..
1857	..	1,157	1,312	1,234	..	1,331	..	1,331	..	..	..	..	..	..
1858	..	1,043	1,137	1,090	..	1,197	..	1,197	..	..	..	..	..	..
1859	..	1,008	1,175	1,083	..	1,197	..	1,197	..	..	..	..	..	..
1860	..	1,080	1,237	1,158	..	1,260	..	1,260	..	..	..	..	..	..
1861	..	1,106	1,225	1,165	..	1,236	..	1,236	..	..	..	..	..	..
1862	..	1,173	1,262	1,217	..	1,244	..	1,244	..	..	..	..	..	..
1863	..	1,377	1,287	1,332	..	1,252	..	1,252	..	..	..	..	..	..
1864	..	1,509	1,312	1,410	..	1,236	..	1,236	..	..	..	..	..	..
1865	..	1,329	1,262	1,295	..	1,157	..	1,157	..	..	..	..	..	..
1866	..	1,292	1,275	1,283	..	1,173	..	1,173	..	..	..	..	..	..
1867	..	1,166	1,250	1,208	..	1,150	..	1,150	..	..	..	..	..	..
1868	..	1,077	1,237	1,157	..	1,157	..	1,157	..	..	..	..	..	..
1869	..	1,075	1,225	1,150	..	1,134	..	1,134	..	..	..	..	..	..
1870	..	1,075	1,200	1,137	..	1,165	..	1,165	..	..	..	..	..	..
1871	1,239	1,041	1,250	1,177	..	1,205	..	1,205	..	..	..	..	..	..
1872	1,327	1,172	1,362	1,287	..	1,252	..	1,252	..	..	..	..	..	..
1873	1,388	1,167	1,387	1,314	..	1,252	..	1,252	..	..	..	..	..	..
1874	1,343	1,129	1,275	1,249	..	1,157	..	1,157	..	..	..	..	..	..
1875	1,283	1,089	1,200	1,191	..	1,126	..	1,126	..	..	..	..	..	..
1876	1,253	1,044	1,187	1,161	..	1,133	..	1,133	..	..	..	..	..	1,179
1877	1,283	1,063	1,175	1,174	..	1,142	..	1,142	..	..	..	..	..	1,098
1878	1,198	998	1,087	1,094	..	1,047	..	1,047	..	..	..	..	..	992
1879	1,143	901	1,037	1,027	..	1,024	..	1,024	..	..	..	..	..	976
1880	1,179	1,007	1,100	1,095	..	1,047	..	1,047	..	..	..	..	..	1,041
1881	1,157	932	1,062	1,050	..	1,024	..	1,024	..	..	1,145	1,198	1,171	1,049
1882	1,167	972	1,050	1,063	..	1,000	..	1,000	..	..	1,109	1,161	1,135	1,038
1883	1,151	909	1,025	1,028	..	961	..	961	..	..	1,065	1,102	1,083	1,024
1884	1,043	875	950	956	..	882	..	882	..	..	1,001	1,056	1,028	976
1885	978	824	900	901	..	866	..	866	..	..	946	1,014	980	886
1886	923	806	862	864	..	835	..	835	..	..	938	1,008	973	821
1887	903	832	850	862	..	803	..	803	..	..	910	954	932	805
1888	931	828	875	878	..	843	..	843	..	..	929	920	924	854
1889	945	866	900	904	..	874	..	874	..	..	945	965	955	886
1890	944	896	900	913	..	874	879	876	865	..	953	979	933	886
1891	977	879	900	919	..	858	879	868	860	..	907	915	894	910
1892	924	839	850	871	..	835	831	833	856	..	886	915	886	821
1893	909	841	850	868	..	819	855	837	843	..	878	913	878	813
1894	855	808	787	817	..	756	790	773	840	..	822	863	842	764
1895	829	768	775	791	..	740	742	741	839	..	813	873	842	748
1896	806	790	762	786	..	717	726	721	836	..	812	827	825	756
1897	824	781	775	793	..	724	784	729	832	..	806	813	817	772
1898	852	781	800	811	..	748	774	761	844	..	853	828	842	805
1899	843	816	850	836	..	811	839	825	830	..	913	905	883	854
1900	914	965	937	939	..	866	903	884	841	882	990	900	903	894
1901	883	891	875	883	841	827	847	838	840	888	912	872	878	862
1902	881	874	862	872	821	811	831	821	826	858	879	888	863	878
1903	886	904	862	884	845	819	839	834	828	827	890	922	867	854
1904	898	856	875	876	833	811	839	828	813	795	916	912	859	870
1905	892	887	900	904	870	858	847	858	825	825	910	924	871	894
1906	921	952	987	953	917	913	927	919	831	854	965	953	901	927
1907	969	1,047	1,000	1,005	963	937	984	961	853	874	1,007	1,003	934	959
1908	941	921	912	925	891	898	887	892	873	881	968	938	914	919
1909	952	952	925	943	896	913	903	904	917	912	978	950	939	935
1910	995	978	975	983	958	961	952	957	937	921	991	984	958	976
1911	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912	1,050	1,067	1,062	1,060	1,035	1,040	1,040	1,038	1,021	1,031	1,029	1,001	1,020	1,065
1913	1,065	1,052	1,062	1,060	1,021	1,016	1,024	1,020	1,021	1,005	..	..	1,013	1,049
1914	1,071	1,045	1,062	1,059	1,042	1,036	..	1,039	1,004	..	..	..	1,004	1,179
1915	1,315	1,328	1,350	1,320	1,428	1,419	..	1,423	..	..	..	..	..	..
1916	1,705	1,724	1,700	1,710	1,922	..	..	1,922	..	..	..	..	..	..
1917	2,220	2,158	2,150	2,176	2,671	..	..	2,671	..	..	..	..	..	..

The World's Index-number is obtained by multiplying the average index-number for each country by the population weight, and dividing the total of the sums by the total population weight.

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Wholesale Prices.—Index-numbers in Various Countries (1911 = 1000)—*cont.*

Year.	HOLLAND.				NORWAY.	R'SSIA	SPAIN.	AUSTRIA.	GERMANY.				
	Contract Prices, State Institutions.	Contract Prices, Municipal Hospitals.	Agricultural Produce.	Average.	Import Values.	Government	Bernis	Contract, Poor Institutions.	Conrad and Hamburg.	Schmitz.	Calwer.	Vossische, Zeitung.	Average.
	8	23	14	..	39	66	17	14	33	27	17	39	
1840	..	..	..	..	..	..	..	..	..	..	..	..	..
1841	..	..	..	..	..	..	..	..	..	..	..	..	..
1842	..	..	..	..	..	..	..	..	..	..	..	..	..
1843	..	..	..	..	..	..	..	..	..	..	..	..	..
1844	..	..	..	..	..	..	..	..	..	..	..	..	..
1845	..	..	..	..	..	..	..	..	..	..	..	..	..
1846	..	..	..	..	..	..	..	..	..	..	..	..	..
1847	..	..	..	..	..	..	..	..	..	..	..	..	..
1848	..	..	..	..	..	..	..	..	..	..	..	..	..
1849	..	..	..	..	..	..	..	..	..	..	..	..	..
1850	..	..	..	..	..	..	..	..	976	..	..	..	976
1851	..	..	..	..	..	..	..	..	911	846	..	..	878
1852	..	..	..	..	..	..	..	..	959	869	..	..	914
1853	..	..	..	..	..	..	..	..	1,089	1,000	..	..	1,044
1854	..	..	..	..	..	..	..	..	1,244	1,108	..	..	1,176
1855	..	..	..	..	..	..	..	..	1,309	1,109	..	..	1,209
1856	..	..	..	..	..	..	..	..	1,195	1,115	..	..	1,155
1857	..	..	..	..	..	..	..	..	1,220	1,116	..	..	1,168
1858	..	..	..	..	..	..	..	..	1,057	942	..	..	999
1859	..	..	..	..	..	..	..	..	1,106	960	..	..	1,033
1860	..	..	..	..	..	..	..	..	1,146	998	..	..	1,072
1861	..	..	..	..	..	..	..	..	1,130	989	..	..	1,059
1862	..	..	..	..	..	..	..	..	1,146	1,011	..	..	1,078
1863	..	..	..	..	..	..	..	..	1,138	1,031	..	..	1,084
1864	..	..	..	..	..	..	..	..	1,106	1,053	..	..	1,079
1865	..	..	..	..	..	..	..	..	1,130	987	..	..	1,058
1866	..	..	..	..	..	..	..	..	1,154	1,008	..	..	1,081
1867	..	..	..	..	..	..	..	..	1,163	1,015	..	..	1,089
1868	..	..	..	..	..	..	..	..	1,130	1,010	..	..	1,070
1869	..	..	..	..	..	..	..	..	1,130	1,010	..	..	1,070
1870	911	..	..	911	..	..	..	..	1,098	986	..	..	1,042
1871	962	..	..	962	..	..	..	..	1,106	1,034	..	..	1,070
1872	1,003	..	..	1,003	..	..	..	..	1,260	1,144	..	..	1,202
1873	1,025	..	..	1,025	..	..	..	..	1,301	1,190	..	..	1,245
1874	1,076	..	..	1,076	..	..	..	..	1,195	1,098	..	..	1,146
1875	1,000	..	..	1,000	..	..	..	..	1,122	1,029	..	..	1,075
1876	1,001	..	..	1,001	..	..	..	..	1,089	1,005	..	..	1,047
1877	1,044	..	..	1,044	..	..	..	..	1,073	1,008	..	..	1,040
1878	1,040	..	..	1,040	..	..	..	..	1,008	930	..	..	969
1879	996	..	..	996	..	..	..	..	1,000	848	..	..	924
1880	1,043	..	..	1,043	1,137	..	..	..	1,041	939	..	..	990
1881	1,053	1,176	..	1,114	1,120	..	..	..	1,033	919	..	..	976
1882	994	1,188	..	1,091	1,068	..	..	..	1,033	896	..	..	964
1883	942	1,224	..	1,083	1,034	..	..	..	984	875	..	..	929
1884	930	1,235	..	1,082	966	..	..	..	927	838	..	..	882
1885	843	1,141	..	992	923	..	..	823	878	781	..	..	829
1886	819	1,059	..	939	880	..	..	788	821	740	..	..	780
1887	819	1,024	..	921	872	..	..	770	837	765	..	..	801
1888	771	1,012	..	891	880	..	..	745	854	808	..	..	831
1889	818	1,059	..	938	915	..	..	732	919	848	..	..	883
1890	831	1,047	..	939	923	805	..	774	942	904	..	..	923
1891	871	1,035	..	953	940	796	..	803	875	881	..	..	878
1892	960	1,094	..	1,027	915	776	844	763	850	802	..	..	826
1893	835	1,012	..	923	889	799	898	761	816	775		..	795
1894	800	953	..	876	812	741	904	738	736	704	..	..	720
1895	800	941	..	870	803	703	911	710	729	702	756	..	729
1896	763	859	..	811	795	697	864	747	729	705	754	..	729
1897	783	835	..	809	786	725	938	801	737	721	805	..	754
1898	790	847	..	818	821	781	980	823	749	762	847	..	786
1899	816	859	..	837	855	811	953	843	888	827	811	..	842
1900	818	824	742	795	915	859	962	946	884	895	871	865	879
1901	850	871	781	834	863	877	995	955	830	842	849	815	834
1902	829	835	780	815	855	842	1,114	889	833	834	831	794	823
1903	827	847	775	816	855	818	1,065	850	836	846	835	833	837
1904	911	906	787	868	863	848	1,121	826	838	843	872	865	854
1905	900	882	831	871	889	880	1,067	864	869	870	928	900	889
1906	912	882	830	875	923	954	1,113	859	963	942	929	946	945
1907	879	894	872	882	984	1,005	1,138	919	1,012	1,004	1,003	1,001	1,005
1908	954	953	869	925	949	960	1,073	967	935	949	984	926	948
1909	947	941	921	936	949	976	1,037	924	910	939	991	918	939
1910	957	1,012	916	962	966	985	1,035	892	928	955	978	944	950
1911	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912	980	1,099	..	1,040	..	1,063	960	..	1,072	1,096	1,123	1,092	1,096
1913	969	1,124	..	1,046	..	..	994	..	1,032	..	..	..	1,032
1914	926	..	..	926	..	..	..	..	..	..	..	..	..
1915	1,161	..	..	1,161	..	..	..	..	..	..	..	..	..
1916	1,345	..	..	1,345	..	..	..	..	..	..	..	..	..
1917	1,598	..	..	1,598	..	..	..	..	..	..	..	..	..

The World's Index-number is obtained by multiplying the average index-number for each country by the population weight, and dividing the total of the sums by the total population weight.

Wholesale Prices.—Index-numbers in Various Countries (1911 = 1000)—*cont.*

Year.	JAPAN.			UNITED STATES OF AMERICA.						CAND'A	NEW ZEALAND.	AUSTRALIA	W'RLD
	Department of Agriculture and Commerce.	Yokohama Chamber of Commerce.	Average.	Aldrich to 1889. Bureau of Labour.	Drew.	Annalist.	Gibson.	Bradstreet.	Average.	Dept. of Labour.	McIlwraith.	Bureau of Census and Statistics.	Weighted Index No.
	63	47											
1840	..	..	..	1,105	..	..	..	..	1,105	..	..	..	1,162
1841	..	..	..	1,095	..	..	..	..	1,095	..	..		1,143
1842	..	..	..	1,020	..	..	..	..	1,020	..	..	..	1,056
1843	..	..	..	960	..	..	..	..	960	..	..	..	984
1844	..	..	..	964	..	..	..	..	964	..	..	..	991
1845	..	..	..	972	..	..	..	..	972	..	..	..	1,008
1846	..	..	..	1,006	..	..	..	..	1,006	..	..	..	1,039
1847	..	..	..	1,007	..	..	..	..	1,007	..	..	..	1,063
1848	..	..	..	959	..	..	..	..	959	..	..	..	964
1849	..	..	..	934	..	..	..	..	934	..	..	..	931
1850	..	..	..	968	..	..	..	..	968	..	..	..	969
1851	..	..	..	1,002	..	..	..	..	1,002	..	..	..	946
1852	..	..	..	971	..	..	..	..	971	..	..	..	937
1853	..	..	..	1,032	..	..	..	..	1,032	..	..	..	1,043
1854	..	..	..	1,068	..	..	..	..	1,068	..	..	..	1,124
1855	..	..	..	1,070	..	..	..	..	1,070	..	..	..	1,130
1856	..	..	..	1,071	..	..	..	..	1,071	..	..	..	1,121
1857	..	..	..	1,064	..	..	..	..	1,064	..	..	..	1,164
1858	..	..	..	963	..	..	..	..	963	..	..	..	1,032
1859	..	..	..	948	..	..	..	..	948	..	..	..	1,034
1860	..	..	..	946	1,043*	..	..	..	946	..	..	..	1,067
1861	..	..	..	952	..	..	..	..	952	..	1,719	1,541*	1,066
1862	..	..	..	1,114	..	..	..	..	1,114	..	1,738	..	1,153
1863	..	..	..	1,406	..	..	..	..	1,406	..	1,804	..	1,285
1864	..	..	..	1,802	2,682*	..	..	..	1,802	..	1,822	..	1,453
1865	..	..	..	2,051	..	..	..	..	2,051	..	1,766	..	1,513
1866	..	..	..	1,807	..	..	..	..	1,807	..	1,869	1,756*	1,423
1867	..	..	..	1,629	..	..	..	..	1,629	..	1,748	..	1,337
1868	..	..	..	1,518	..	..	..	..	1,518	..	1,719	..	1,279
1869	..	..	..	1,452	..	..	..	..	1,452	..	1,533	..	1,248
1870	..	..	..	1,346	1,419*	..	..	..	1,346	..	1,438	..	1,194
1871	..	..	..	1,287	..	..	..	..	1,287	..	1,402	1,233	1,193
1872	..	..	..	1,313	..	..	..	..	1,313	..	1,438	1,339	1,265
1873	..	..	..	1,301	..	..	..	..	1,301	..	1,533	1,454	1,278
1874	..	..	..	1,258	..	..	..	..	1,258	..	1,505	1,390	1,315
1875	..	..	..	1,207	1,180*	..	..	..	1,207	..	1,384	1,340	1,157
1876	..	..	..	1,118	..	..	..	..	1,118	..	1,308	1,354	1,113
1877	..	..	..	1,049	..	..	..	..	1,049	..	1,346	1,314	1,088
1878	..	..	..	957	..	..	..	..	957	..	1,260	1,219	1,005
1879	..	..	..	914	..	..	..	..	914	..	1,187	1,213	961
1880	..	..	..	1,011	1,052*	..	..	..	1,011	..	1,215	1,112	1,030
1881	..	..	..	1,000	..	..	..	..	1,000	..	1,177	1,124	1,031
1882	..	..	..	1,026	..	..	..	..	1,026	..	1,140	1,292	1,033
1883	..	..	..	1,003	..	..	..	..	1,003	..	1,103	1,186	1,000
1884	..	..	..	940	..	..	..	..	940	..	1,075	1,130	939
1885	..	..	..	880	..	..	..	..	880	..	1,037	1,112	879
1886	..	..	..	869	..	..	..	..	869	..	1,009	1,092	851
1887	..	..	..	876	..	..	..	..	876	..	963	1,059	845
1888	..	..	..	891	857	..	..	..	874	..	963	1,077	853
1889	..	..	..	891	850	..	..	..	870	..	1,037	1,174	872
1890	..	..	..	962	773	834	763	..	833	866	1,000	1,058	853
1891	..	..	..	962	842	912	893	..	902	852	1,009	945	856
1892	..	..	..	798	770	829	796	893	817	808	972	918	817
1893	..	..	..	819	807	886	808	864	804	805	935	850	815
1894	..	..	..	734	738	779	763	767	756	763	916	749	765
1895	..	..	..	734	694	722	738	738	725	776	869	760	743
1896	..	..	..	702	667	611	598	679	651	727	897	922	726
1897	..	..	..	702	647	642	610	702	661	724	906	925	747
1898	..	..	..	734	685	704	680	754	711	755	906	896	787
1899	..	..	..	787	690	712	731	827	749	786	916	809	820
1900	794	..	794	840	817	758	777	905	819	850	944	894	867
1901	770	..	770	833	820	798	782	869	820	840	916	974	872
1902	770	..	770	840	871	887	940	904	888	856	935	1,051	855
1903	802	..	802	840	860	820	861	911	858	867	935	1,049	834
1904	857	844	850	906	859	829	849	909	870	874	888	890	862
1905	920	919	919	840	860	844	831	929	861	893	916	910	888
1906	905	914	909	927	896	873	875	966	907	942	944	948	930
1907	968	990	979	989	947	900	895	1,022	951	991	1,000	1,021	981
1908	968	969	968	958	949	959	953	919	940	949	972	1,115	950
1909	937	1,018	977	1,021	990	1,021	1,040	977	1,010	956	944	993	965
1910	952	952	952	1,052	1,040	1,047	1,042	1,031	1,042	975	963	1,006	970
1911	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912	..	1,052	1,052	1,062	1,053	1,093	1,100	1,054	1,073	1,055	..	1,170	1,059
1913	..	1,052	1,052	1,052	1,017	1,068	1,021	1,057	1,043	1,064	..	1,088	1,039
1914	..	986	986	1,042	1,048	1,114	1,069	1,022	1,059	1,068	..	1,149	1,033
1915	..	941	941	1,052	1,069	1,130	1,125	1,131	1,101	1,162	..	1,604	1,150
1916	..	961	961	1,302	1,277	1,340	1,316	1,357	1,318	1,429	..	1,504	1,375
1917	..	1,240	1,240	1,830	1,756	2,002	1,950	1,795	1,867	1,860	..	1,662	2,078

The World's Index-number is obtained by multiplying the average index-number for each country by the population weight, and dividing the total of the sums by the total population weight.

* Not included in the World's Index-numbers.

COMMODITIES INCLUDED IN VARIOUS

COUNTRY.	GREAT BRITAIN.							FRANCE.								ITALY.		DENMARK	HOLLAND.			NORWAY
COMMODITY.	Fleetwood—1707.	Jevons—1792-1865	Bourne—1857-1879.	Palgrave—1865-1886.	Board of Trade—1871.	Sauerbeck (Statist)—1846.	Economist—1845.	Palgrave—1865-1884.	Falkner—1861-1910.	Hooker—1890-1910.	Levasseur—1880-1908	Annuaire Statistique, 1857.	Statistique Generale, 1880.	Réforme Economique,1891	Imports, 1857-1911.	Government—1862-1885.	Government—1890-1912.†	State Stat'cal Bureau, 1876	State Instit't'ns,1870-1912†	M'cip'l H'spit'l,1881-1911†	Agricultural Prod,1900-'11.	Gov. Imports—1880-1911.
No. of Commodities.	39	39	20	22	45	45	44	22	38	40	21	52	25	79	46	6	13	38	8	23	14	39
Metals—																						
Copper	—	*	*	*	*	*	*	*	*	*	—	*	—	*	*	—	—	*	—	—	—	—
Iron, pig	—	*	*	*	*	*	*	*	*	*	—	—	—	*	*	—	—	—	—	—	—	*
,, bar	—	—	—	—	—	*	*	—	—	—	—	*	—	*	*	—	—	*	—	—	—	*
,, wire	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead, pig	—	*	*	*	*	*	*	*	*	*	—	*	—	*	*	—	—	—	—	—	—	*
,, pipe	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nails	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quicksilver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Screws	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silver	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steel Billets	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	*
,, Rails	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tin	—	*	*	*	*	*	*	—	—	*	—	*	—	*	*	—	—	*	—	—	—	*
Tin Plates	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Zinc	—	—	—	—	*	—	—	*	*	—	—	*	—	*	*	—	—	—	—	—	—	*
Textiles, etc.—																						
Calico	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cotton, raw	—	*	*	*	*	*	*	*	*	*	—	*	—	*	*	—	—	*	—	—	—	—
,, cloth	*	—	—	*	—	—	*	—	*	—	—	—	—	—	—	—	—	—	—	—	—	*
,, yarn	—	—	—	*	—	—	*	—	*	*	—	—	—	*	—	—	—	*	—	—	—	*
Flax	*	*	*	*	*	*	*	—	—	*	—	*	—	*	*	—	—	—	—	—	—	—
Hemp	—	*	*	*	—	*	*	—	—	*	—	*	—	*	*	—	—	—	—	—	—	—
Hides	*	*	—	—	*	*	—	*	*	*	—	*	—	*	*	—	—	*	—	—	—	—
Jute	—	—	—	—	*	*	*	—	—	*	—	*	—	*	*	—	—	—	—	—	—	—
Leather	—	*	*	*	—	*	*	—	—	—	—	—	—	*	—	—	—	—	—	—	—	*
Linen	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—
Rubber	—	—	—	—	*	—	*	—	—	—	—	*	—	*	—	—	—	—	—	—	—	—
Sheeting	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silk, raw	—	*	*	*	*	*	*	*	*	*	—	*	—	*	*	—	—	—	—	—	—	—
Wool	*	*	*	*	*	*	*	*	*	*	—	*	—	*	*	—	—	*	—	—	—	—
Woollen Yarn	—	—	—	—	—	—	—	*	*	—	—	—	—	*	—	—	—	*	—	—	—	*
Meat, etc.—																						
Cattle	*	—	—	—	—	—	—	—	*	*	—	—	—	—	*	—	—	—	—	—	*	—
Hogs	*	—	—	—	—	—	—	—	*	*	—	—	—	—	*	—	—	—	—	—	*	—
Sheep	*	—	—	—	—	—	—	—	*	*	—	—	—	—	*	—	—	—	—	—	—	—
Beef	—	*	*	*	*	*	*	*	—	—	*	*	*	*	—	*	*	*	*	*	—	*
Lamb	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mutton	—	*	—	—	*	*	*	—	—	—	—	*	*	*	—	—	—	—	—	—	—	—
Pork	—	*	—	—	*	*	*	—	—	—	*	*	*	*	—	—	*	*	—	*	—	*
Veal	—	—	—	—	—	—	—	—	—	—	—	*	*	*	—	—	*	—	—	—	—	—
Fish	*	—	—	—	*	—	—	—	—	—	*	—	—	—	—	—	*	*	—	—	—	—
Agricultural Produce—																						
Apples, dried	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Barley	*	*	—	—	*	*	*	—	—	*	—	*	—	*	*	—	—	*	—	—	*	*
Beans	*	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—
Biscuits	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—
Bread	—	—	—	—	—	—	—	—	—	—	*	—	*	*	—	—	*	—	*	*	—	—
Clover	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cornmeal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flax Seed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—
Hay	*	*	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—
Lemons	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Linseed	—	—	—	—	*	*	—	—	*	—	—	—	—	—	*	—	—	—	—	—	—	—
Maize	—	—	—	—	*	*	—	—	—	*	—	*	—	*	*	*	—	*	—	—	*	—
Oats	*	*	—	—	*	*	*	—	—	*	—	*	—	*	*	—	—	*	—	—	*	*
Peas	*	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	*	—
Prunes, dried	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rape Seed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rice	—	—	—	—	*	*	*	*	*	*	—	*	*	*	*	*	*	*	*	*	—	*
Rye	*	*	—	—	—	—	—	—	—	*	—	*	—	*	*	—	—	*	—	—	*	*
Straw	—	*	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—
Wheat	*	*	*	*	*	*	*	*	*	*	—	*	—	*	*	*	—	*	—	—	*	*
Groceries, etc.																						
Almonds	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocoa	—	—	—	—	*	—	—	—	—	*	—	*	—	*	*	—	—	*	—	—	—	—
Coffee	—	—	*	*	*	*	*	*	*	*	—	*	*	*	*	—	*	*	—	*	—	*
Currants	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flour, rye	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*

† Contract Prices.

INVESTIGATIONS ON WHOLESALE PRICES.

RUSSIA.	SWITZ'LD.	BELGIUM.		AUSTRIA.	GERMANY.											INDIA.	JAPAN.	UNITED STATES.					CANADA.	N. Z'LAND	A'STR'LIA	
Petrograd—1890-1911.	Walras—1871-1884.	Saveur—1881-1909.	Waxweiler—1881-1910.	Trieste-Contract, 1885-1911	Laspeyres—1831-1863.‡	Paasche—1847-1872.‡	Van der Borght—1847-1880‡	Conrad—1871-1912.‡	Soetbeer—1847-1891.‡	Prussian Govt.—1840-1891	Government—1879-1912.	Hooker—1890-1910.	Customs Union, 1890-1913.	Schmitz—1851-1906.	Vossische Zeitung—1900.	Atkinson—1871-1895.	Yokohama—1904-1916.	Aldrich—1840-1891.	Bureau of Labour—1890.	Annalist—1890	Bradstreet—1892.	Gibson—1890.	Dept. of Labour—1890.	McIlwraith—1861-1910.	Bureau Census, 1861.	Number of Occurrences of each Commodity.
66	20	17	10	13	48	47	22	39	114	17	44	40	33	27	39	45	47	223	346	25	106	22	271	45	92	
*	—	—	—	—	*	*	*	*	*	—	*	*	*	*	*	—	—	*	*	—	*	—	*	—	*	29
*	—	—	—	—	*	*	*	*	*	—	*	*	*	*	*	—	*	*	*	—	*	—	*	—	*	29
*	—	—	—	—	—	—	—	*	*	—	*	—	—	—	—	—	—	—	*	—	—	—	*	*	*	15
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	*	*	5
*	—	—	—	—	*	*	*	*	*	—	*	*	*	*	*	—	—	—	*	—	*	—	*	*	—	28
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	*	—	*	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	*	—	*	—	*	—	—	5
—	—	—	—	—	—	*	—	*	*	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	*	8
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	4
—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	6
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	4
*	—	—	—	—	*	*	*	*	*	—	*	*	*	*	*	—	—	—	*	—	*	—	*	—	—	26
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	*	5
*	—	—	—	—	*	*	*	—	*	—	*	—	*	*	*	—	—	*	*	—	—	—	*	*	*	21
*	—	—	*	—	—	—	—	—	—	—	—	—	*	—	*	—	*	*	*	—	—	—	—	—	—	7
*	—	—	—	—	*	*	*	*	*	*	*	*	*	*	*	*	*	—	*	—	*	—	*	—	*	31
—	—	—	—	—	—	—	—	—	*	—	*	—	—	—	—	*	*	*	—	—	—	—	*	—	—	10
*	—	—	—	—	—	*	—	*	*	—	—	*	*	—	*	—	*	—	*	—	—	—	—	—	—	16
*	—	—	—	—	*	*	—	—	*	—	*	*	—	—	—	—	—	—	—	—	*	—	*	—	—	19
*	—	—	—	—	*	*	—	*	*	—	*	*	*	*	*	—	*	—	—	—	*	—	—	—	—	21
*	—	—	—	—	*	—	—	—	*	—	*	*	—	—	*	*	—	*	*	—	*	—	*	—	—	22
—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	*	*	—	—	*	—	*	—	*	—	—	14
—	—	—	—	—	*	—	—	—	*	—	—	—	—	—	—	*	—	*	*	—	*	—	*	—	*	15
—	—	—	*	—	—	*	—	*	*	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	6
—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	—	—	*	*	—	*	—	*	—	—	11
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	*	—	*	—	—	—	—	4
—	—	—	—	—	—	*	*	—	*	—	*	*	*	*	*	*	*	—	*	—	*	—	*	—	—	25
*	—	—	—	—	*	—	—	—	*	—	*	*	*	*	*	*	—	*	*	—	*	—	*	*	*	29
—	—	—	—	—	—	*	—	*	*	—	—	—	—	—	—	—	—	—	*	—	—	—	*	—	—	10
*	—	—	—	—	—	—	—	—	—	—	—	*	—	—	*	—	—	—	*	*	*	*	*	—	—	13
*	—	—	—	—	—	—	—	—	—	—	—	*	—	—	*	—	—	—	*	*	*	—	*	—	—	12
*	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	*	*	*	*	*	—	—	11
*	*	*	*	*	*	—	—	—	*	*	*	—	—	*	—	*	*	*	*	*	*	*	*	*	*	37
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	*	*	5
—	*	*	—	—	—	—	—	—	*	*	*	—	—	*	*	*	—	*	*	*	*	*	*	*	*	23
*	—	*	—	—	*	—	—	—	*	*	*	—	—	*	—	—	*	*	*	*	*	*	*	—	*	27
—	*	*	—	—	—	—	—	—	*	*	*	—	—	*	—	—	—	—	—	—	—	—	*	—	*	12
*	—	—	—	—	*	*	—	*	*	—	*	—	*	*	*	—	—	*	*	*	*	—	*	*	*	21
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	*	*	—	*	—	—	5
*	*	*	—	—	*	*	*	*	*	*	*	*	*	*	*	—	*	—	*	—	*	*	*	*	*	33
—	—	*	—	*	—	—	—	—	*	*	—	—	—	—	—	—	*	*	*	*	*	—	*	—	—	14
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	4
—	*	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	12
—	—	—	—	—	*	*	—	*	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	*	—	*	—	—	—	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	4
—	*	*	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	*	—	*	—	*	—	*	10
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	5
*	—	—	—	—	—	—	—	—	—	—	*	*	*	*	*	*	—	—	*	—	*	*	*	—	*	21
*	*	*	—	—	*	*	*	*	*	*	*	*	*	*	*	—	—	—	*	*	*	*	*	*	*	33
*	—	*	—	—	—	—	—	—	*	*	—	—	—	—	—	—	—	—	*	—	*	—	*	—	*	13
—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	*	*	—	—	*	—	—	4
—	—	—	—	—	*	*	—	*	*	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	5
*	—	—	—	*	*	*	*	*	*	—	*	*	*	*	*	*	*	*	*	*	*	—	*	*	*	37
*	*	*	—	—	*	*	*	*	*	*	*	*	*	*	*	—	*	—	*	—	*	*	*	—	—	28
—	*	*	—	—	—	—	—	—	—	*	—	—	—	—	—	—	*	—	*	—	—	—	*	—	*	9
*	*	*	*	—	*	*	*	*	*	*	*	*	*	*	*	*	*	—	*	—	*	*	*	*	*	40
*	—	—	—	—	*	*	—	*	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6
—	—	—	—	—	*	*	*	*	*	—	*	—	—	—	—	—	—	—	—	—	—	—	—	*	*	14
*	—	—	—	—	*	*	*	*	*	—	*	*	*	*	*	*	—	*	*	*	*	*	*	*	*	36
*	—	—	—	—	*	*	—	*	*	—	—	—	—	—	—	—	—	*	*	—	*	—	*	*	*	11
*	—	—	—	—	—	—	—	—	*	—	*	*	*	—	—	—	—	*	*	*	—	—	—	—	—	9

‡ Hamburg.

COMMODITIES INCLUDED IN VARIOUS

Country.	Great Britain.							France.								Italy.		Denmark	Holland.			Norway.
Commodity.	Fleetwood—1707.	Jevons—1792-1865.	Bourne—1857-1879.	Palgrave—1865-1886.	Board of Trade—1871.	Sauerbeck (Statist)—1846.	Economist—1845.	Palgrave—1865-1884.	Falkner—1861-1910.	Hooker—1890-1910.	Levasseur—1880-1908.	Annuaire Statistique, 1857.	Statistique Generale, 1880.	Réforme Economique,1891	Imports, 1857-1911.	Government—1862-1885	Government—1890-1912.†	State Stat'cal Bureau, 1876.	State Instit't'ns,1870-1912†	M'nicip'l H'spital,1881-1911	Agricultural Prod,1900-'11.	Gov. Imports—1880-1911.
No. of Commodities.	39	39	20	22	45	45	44	22	38	40	21	52	25	79	46	6	13	38	8	23	14	39
Groceries, etc.—cont.																						
Flour wheat	—	—	—	—	—	*	*	—	—	*	—	*	—	*	*	—	—	*	—	*	—	*
Hops	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lard	—	—	—	—	—	—	—	—	—	—	*	—	*	*	—	—	—	*	—	—	—	—
Macaroni	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—
Malt	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Molasses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—
Oleomargarine ..	—	—	—	—	*	—	—	—	—	—	—	—	—	*	—	—	—	*	—	*	—	*
Olive Oil	—	—	—	—	*	—	*	—	—	—	*	—	*	—	*	—	*	—	—	—	—	—
Pepper	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Potatoes	—	—	—	—	*	*	*	—	—	—	*	*	*	—	*	—	—	*	*	*	*	*
Raisins	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rapeseed Oil ..	—	—	—	—	—	—	—	—	—	—	—	*	—	*	—	—	—	—	—	—	—	—
Salt	*	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—
Soap	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spirits (alcohol) ..	—	*	—	—	*	—	—	—	—	*	—	*	—	*	—	—	—	—	—	—	—	—
Sugar	—	*	*	*	*	*	*	*	*	*	*	*	*	*	*	—	*	*	—	*	—	*
Tallow	—	*	*	*	*	*	*	*	—	*	—	*	—	*	*	—	—	*	—	—	—	—
Tea	—	*	*	*	*	*	*	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*
Tobacco	—	—	*	*	*	—	*	*	*	—	—	—	—	—	—	—	—	*	—	—	—	*
Vinegar	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—
Wine	*	—	—	—	*	—	—	—	—	*	*	—	*	*	—	*	*	—	—	—	—	—
Dairy Produce—																						
Bacon	—	—	—	—	*	*	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—
Butter	—	*	—	—	*	*	*	*	*	*	*	*	*	*	*	—	*	*	*	*	*	*
Cheese	*	—	—	—	*	—	—	—	—	—	*	*	*	—	*	—	—	—	—	—	*	*
Eggs	*	—	—	—	*	—	—	—	—	—	*	—	*	—	—	—	*	*	—	*	—	*
Ham	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Milk	*	—	—	—	*	—	—	—	—	—	*	—	*	—	—	—	*	—	*	*	—	—
Fuel, etc.—																						
Candles	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—
Coal	—	—	*	—	*	*	*	*	*	*	*	*	*	*	*	—	—	*	—	—	—	*
Coke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*
Kerosene (Petrol'm)	—	—	—	—	*	*	*	—	—	—	—	*	*	*	*	—	—	*	—	—	—	*
Matches	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Building Materials—																						
Bricks	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—
Cement	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lime	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Linseed Oil ..	—	—	—	—	—	*	—	—	—	—	—	*	—	*	—	—	—	—	—	—	—	—
Putty	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Resin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Timber	—	*	*	*	*	*	*	—	—	—	—	*	—	—	*	—	—	*	—	—	—	—
Turpentine ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Lead ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chemicals—																						
Alum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Borax	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Glycerine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Muriatic Acid ..	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—
Opium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quinine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulphur	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulphuric Acid ..	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—
Saltpetre	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—
Soda Bicarb ..	—	—	—	—	—	*	*	—	—	—	—	*	—	*	—	—	—	—	—	—	—	—
Sundries—																						
Carpets	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—
Chairs, Kitchen ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pails	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—
Tables, Kitchen ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tubs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tumblers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Indigo	—	*	*	*	—	*	*	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—

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† Contract Prices.

INVESTIGATIONS ON WHOLESALE PRICES.—*continued.*

RUSSIA.	SWITZ'LD.	BELGIUM.		AUSTRIA.	GERMANY.											INDIA.	JAPAN.	UNITED STATES.					CANADA.	N.Z'LAND	A'STR'LIA	Number of Occurrences of each Commodity.
Petrograd—1890-1911.	Walras—1871-1884.	Saveur—1881-1909.	Waxweiler—1881-1910.	Trieste-Contract, 1885 1911	Laspeyres—1831-1863.‡	Paasche—1847-1872.‡	Van der Boght-1847-1880.‡	Conrad—1871-1912.‡	Soetbeer—1847-1891.‡	Prussian Govt.—1840-1891	Government—1879-1912.	Hooker—1890-1910.	Customs Union, 1890-1913.	Schmitz—1851-1906.	Vossische Zeitung—1900.	Atkinson—1871-1895.	Yokohama—1904-1916.	Aldrich—1840-1891.	Bureau of Labour—1890.	Annalist—1890.	Bradstreet—1892	Gibson—1890.	Dept. of Labour—1890.	McIlwraith—1861-1910.	Bureau Census, 1861.	
66	20	17	10	13	48	47	22	39	114	17	44	40	33	27	39	45	47	223	346	25	106	22	271	45	92	
*	—	—	—	*	*	—	—	—	*	—	*	—	*	—	—	—	—	*	*	*	*	*	*	*	*	23
*	—	—	—	—	—	*	—	—	*	—	*	*	—	—	*	—	—	—	*	—	*	—	*	*	*	12
*	*	—	—	—	—	*	—	*	*	—	*	*	—	*	*	—	—	*	*	*	*	—	*	—	*	19
—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	3
*	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	*	—	—	—	*	—	*	6
—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	*	—	—	*	*	—	*	—	*	—	—	7
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	6
*	—	—	—	*	—	—	—	—	*	—	—	—	—	—	—	—	—	—	*	—	*	—	—	—	—	11
*	—	—	—	—	*	*	*	*	*	—	*	—	*	*	*	—	—	*	*	—	—	—	*	*	—	15
—	*	*	*	*	—	—	—	—	*	*	*	*	—	—	*	*	—	*	*	*	*	*	*	—	*	29
—	—	—	—	—	*	*	—	*	*	—	—	—	—	—	—	—	—	*	*	—	*	—	*	*	*	11
*	—	—	—	—	—	—	—	—	*	—	*	—	*	*	*	—	—	—	—	—	—	—	—	—	—	8
*	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	*	*	*	—	*	—	*	*	*	11
—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	*	—	5
—	—	—	—	—	*	—	—	—	*	—	*	*	*	*	*	—	*	*	*	—	*	—	*	*	*	19
*	—	—	—	*	*	*	*	—	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	40
—	—	—	—	—	—	*	—	*	*	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	18
*	—	—	—	—	*	*	*	*	*	—	*	—	—	—	*	*	*	—	*	—	*	*	*	*	*	24
—	—	—	—	—	*	—	—	—	*	—	*	*	*	*	*	*	—	—	*	—	*	—	*	—	*	20
—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	5
—	—	—	—	*	*	—	—	—	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	12
—	*	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	*	*	*	*	*	*	*	*	13
*	*	*	*	—	*	*	—	—	*	*	*	*	—	—	*	*	—	*	*	*	*	*	*	*	*	38
—	—	—	—	*	*	—	—	—	*	—	—	—	—	—	—	—	—	*	*	*	*	—	*	*	*	18
—	*	—	*	—	—	—	—	—	*	—	—	—	—	—	—	—	*	*	*	—	*	—	*	—	*	17
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	*	*	—	*	7
—	—	—	*	—	—	—	—	—	*	*	—	—	—	—	—	—	*	*	*	—	*	—	*	—	—	15
—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	*	*	—	—	—	—	*	*	6
*	—	—	*	—	*	*	*	*	*	—	*	*	*	*	*	*	*	*	*	—	*	—	*	*	*	34
—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	5
*	—	—	—	—	—	—	—	—	—	—	*	*	*	*	*	—	*	—	*	—	*	—	*	*	*	21
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	*	*	5
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	6
—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	*	*	—	—	—	*	*	*	6
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	4
—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	5
*	—	—	—	—	—	—	—	*	*	—	—	—	—	—	—	—	—	*	*	—	*	—	*	*	—	11
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
*	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	5
—	—	—	—	—	*	—	—	—	*	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	6
—	—	—	—	—	—	*	—	*	*	—	—	—	—	—	—	*	—	—	—	—	*	—	*	—	*	16
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	4
*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	*	5
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	*	5
*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	—	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*	*	—	*	—	*	—	—	5
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	4
*	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	*	*	*	—	—	—	*	—	*	7
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	*	—	*	—	—	5
*	—	—	—	—	*	*	*	*	*	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	*	9
—	—	—	—	—	*	—	—	—	*	—	—	—	—	—	—	—	—	—	*	—	*	—	*	*	*	11
—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	—	—	—	*	*	—	—	—	—	—	—	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	*	—	*	—	*	—	—	5
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	—	—	—	*	—	—	3
*	—	—	—	—	*	*	*	*	*	—	—	—	—	—	—	*	*	—	—	—	—	—	*	—	—	15

‡ Hamburg.

APPENDIX IV.

Average Current Retail Prices in Metropolitan and Country Towns, 1918.

Particulars.	Bread	Flour	Tea	Coffee	Sugar	Rice	Sago	Jam	Oatmeal	Raisins	Currants	Starch
Unit of Quantity	2 lbs.	25 lbs.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.
	d.	s. d.	s. d.	s. d.	d.	d.	d.	d.	d.	d.	d.	d.
N.S. WALES												
Sydney ..	4.0	3 7.3	1 7.5	1 7.5	3.5	3.4	4.6	5.8	3.3	8.7	8.9	7.2
Newcastle	4.0	3 8.2	1 9.2	1 7.5	3.5	3.6	4.8	5.7	3.6	9.2	9.2	7.3
Broken Hill	4.0	3 9.4	1 8.4	1 8.6	4.0	4.9	6.1	5.8	3.9	8.9	8.5	8.4
Goulburn	4.0	3 6.0	1 8.4	1 6.8	3.7	4.0	4.8	5.8	3.6	9.8	9.6	7.8
Bathurst ..	4.0	3 7.7	1 8.2	1 9.0	3.7	3.9	5.1	5.8	3.8	9.4	9.3	7.5
Weighted Aver.	**4.0**	**3 7.4**	**1 7.7**	**1 7.5**	**3.5**	**3.5**	**4.7**	**5.8**	**3.4**	**8.8**	**8.9**	**7.3**
VICTORIA												
Melbourne	3.6	3 5.2	1 5.7	1 7.3	3.5	3.4	4.5	6.0	3.2	8.3	8.5	6.8
Ballarat ..	3.5	3 1.3	1 6.1	1 6.0	3.8	3.4	4.3	6.4	3.3	7.6	8.0	7.0
Bendigo ..	3.5	3 3.1	1 4.4	1 6.0	3.8	3.3	4.5	6.4	3.2	8.2	8.7	6.8
Geelong ..	3.5	3 4.8	1 4.3	1 5.6	3.4	3.4	4.7	6.1	3.2	7.7	8.4	7.0
Warrnambool	4.0	3 6	1 6	1 6.4	3.7	3.6	4.5	5.8	3.5	7.9	8.5	7.6
Weighted Aver.	**3.6**	**3 4.8**	**1 5.6**	**1 7.1**	**3.5**	**3.4**	**4.5**	**6.0**	**3.2**	**8.2**	**8.4**	**6.8**
QUEENSLAND												
Brisbane ..	4.0	3 10.0	1 9	1 8.5	3.5	3.4	4.4	5.5	3.5	8.8	9.0	7.1
Toowoomba	4.6	3 11.2	1 9	1 7.9	3.8	3.6	5.2	6.1	3.9	9.0	9.3	7.9
Rockhampt'n	4.5	4 0.2	1 9	1 7.4	3.6	3.4	4.4	5.7	3.5	8.8	8.9	7.9
Charters Towers	5.3	4 8.2	2 0.6	1 11.6	4.0	4.3	6.5	6.6	4.0	10.1	9.9	9.7
Warwick ..	4.5	3 8.2	1 9.5	1 6.6	3.9	3.6	5.1	6.1	3.7	9.2	9.2	7.9
Weighted Aver.	**4.2**	**3 11.2**	**1 9.3**	**1 8.5**	**3.6**	**3.5**	**4.7**	**5.7**	**3.6**	**8.9**	**9.1**	**7.5**
S. AUSTRALIA												
Adelaide ..	3.9	3 6.2	1 6.9	1 7.9	3.5	3.9	5.0	5.0	3.4	8.1	8.1	7.1
Moonta ..	4.0	3 3.7	1 7.1	1 8.1	3.5	4.2	5.6	4.9	3.6	8.6	8.1	7.5
Port Pirie..	4.0	3 6.4	1 7.9	1 8.8	3.7	4.2	5.8	4.9	3.7	9.1	8.2	7.4
Mt. Gambier	4.0	3 5.1	1 6.8	1 9.9	3.5	3.5	5.2	5.0	3.5	8.4	8.1	8.0
Petersburg	4.0	3 5.9	1 8.6	1 9.5	3.8	4.2	5.9	5.2	3.8	9.1	8.2	7.6
Weighted Aver.	**3.9**	**3 6.1**	**1 6.9**	**1 8.0**	**3.5**	**3.9**	**5.1**	**5.0**	**3.5**	**8.2**	**8.1**	**7.2**
W. AUSTRALIA												
Perth ..	4.0	3 3.7	1 6.4	1 7.5	3.6	3.3	4.3	5.6	3.5	7.8	8.2	6.9
Kalgoorlie..	4.5	3 8.6	1 10.4	1 10.6	4.3	4.5	5.6	6.8	3.9	10.1	10.4	8.9
Mid. Junction	4.0	3 4.5	1 8.4	1 7.2	3.5	3.2	4.5	5.7	3.5	7.1	8.2	6.9
Bunbury ..	4.5	3 4.4	1 6.4	1 7.6	3.9	3.4	4.8	5.6	3.7	8.5	8.6	7.4
Geraldton	4.5	3 6.2	1 9.5	1 7.9	4.0	3.7	4.6	6.0	4.2	8.8	9.5	7.9
Weighted Aver.	**4.1**	**3 4.8**	**1 7.4**	**1 8.1**	**3.7**	**3.6**	**4.6**	**5.9**	**3.6**	**8.3**	**8.7**	**7.4**
TASMANIA												
Hobart ..	4.0	3 7.6	1 5.4	1 6.2	3.5	3.4	4.7	5.2	3.4	8.2	9.3	7.2
Launceston	4.0	3 5.3	1 5.5	1 5.7	3.5	3.4	4.4	5.1	3.3	8.3	8.2	6.8
Zeehan ..	4.1	3 10.1	1 7.7	1 8.1	3.8	3.9	4.9	5.4	3.6	8.3	9.3	8.0
Beaconsfield	4.1	3 8.2	1 7.0	1 6.5	3.8	3.7	5.4	5.4	3.5	9.3	9.3	7.3
Queenstown	4.1	3 8.4	1 6.8	1 8.2	3.7	3.7	4.8	5.3	3.5	9.6	9.2	7.3
Weighted Aver.	**4.0**	**3 7.1**	**1 5.7**	**1 6.3**	**3.5**	**3.5**	**4.7**	**5.2**	**3.4**	**8.4**	**9.0**	**7.1**
Weighted Aver. Commonwealth	**3.9**	**3 6.6**	**1 6.9**	**1 7.5**	**3.5**	**3.5**	**4.6**	**5.8**	**3.4**	**8.5**	**8.7**	**7.1**

Average Current Retail Prices in Metropolitan and Country Towns, 1918—*Cont.*

Particulars.	Blue.		C'ndles		Soap	Pota-toes.		Onions	Kero-sene.		Milk	Butter		Cheese		Eggs		Bacon Middle		Bacon Shoul-der	
Unit of Quantity	dz.sq.		per lb.		per lb.	14 lbs.		per lb.	gallon		quart	per lb.		per lb.		per dz.		per lb.		per lb.	
	s.	*d.*		*d.*	*d.*	*s.*	*d.*	*d.*	*s.*	*d.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
N.S. WALES																					
Sydney ..	1	3.3		10.7	4.5	1	7	3.1	2	2.4	5.9	1	6.9	1	1.3	1	10.2	1	4.8		11.5
Newcastle	1	4.0		10.5	5.6	1	6.2	3.2	2	3.4	5.6	1	7.3	1	1.4	1	9.3	1	4.4	1	1.0
Broken Hill	1	1.3		11.2	5.1	1	5.5	2.8	2	8.6	8.0	1	9.6	1	2.9	1	2.8	1	3.4	1	0.8
Goulburn	1	4.0		10.8	4.9	1	2.8	3.3	2	4.9	5.7	1	6.9	1	2.1	1	6.5	1	3.5	1	0.6
Bathurst ..	1	4.5		11.0	6.0	1	0.4	3.0	2	5.5	5.0	1	7.4	1	2.1	1	7.2	1	4.7	1	1.5
Weighted Aver.	**1**	**3.3**		**10.7**	**4.7**	**1**	**6.7**	**3.1**	**2**	**2.8**	**5.9**	**1**	**7.1**	**1**	**1.4**	**1**	**9.8**	**1**	**4.6**	**0**	**11.7**
VICTORIA																					
Melbourne	1	3.9		10.0	5.2	0	11.4	2.4	2	2.6	5.8	1	6.9	1	1.8	1	5.8	1	4.6	0	11.5
Ballarat ..	1	7.1		9.7	4.7	0	8.7	2.5	2	4.7	5.0	1	6.6	1	0.6	1	2.6	1	3.9	0	11.7
Bendigo ..	1	3.7		10.0	4.0	0	10.9	2.2	2	2.9	5.8	1	6.6	1	1.0	1	1.5	1	2.1	0	10.3
Geelong ..	1	2.5		9.5	4.8	0	10.4	2.2	2	3.2	5.8	1	5.9	1	1.6	1	3.1	1	4.9	0	11.2
Warrnambool	1	1.1		10.0	4.5	0	9.6	2.2	2	4.2	5.0	1	7.4	1	0.6	1	1.3	1	3.1	0	10.5
Weighted Aver.	**1**	**4.0**		**10.0**	**5.1**	**0**	**11.1**	**2.4**	**2**	**2.9**	**5.7**	**1**	**6.8**	**1**	**1.7**	**1**	**5.1**	**1**	**4.4**	**0**	**11.4**
QUEENSLAND																					
Brisbane ..	0	11.3		10.1	5.1	1	6.6	2.8	2	3.3	5.9	1	6.9	1	1.0	1	7.6	1	3.9	0	10.9
Toowoomba	0	11.9		10.4	4.7	1	5.6	3.1	2	7.6	5.5	1	7.0	1	0.8	1	3.4	1	2.9	0	11.6
Rockhampt'n	1	0.1		10.3	4.2	1	8.8	2.6	2	2.1	6.6	1	6.7	1	0.7	1	9.1	1	3.2	1	0.7
Charters Towers	1	2.5	1	1.6	5.5	2	5.0	4.0	2	5.4	6.4	1	8.8	1	2.5	2	2.6	1	4.4	1	1.8
Warwick	1	3.6		11.3	5.1	1	4.4	3.0	2	6.1	5.6	1	6.7	1	0.9	1	2.8	1	2.9	1	0.1
Weighted Aver.	**0**	**11.9**		**10.5**	**5.0**	**1**	**7.6**	**2.9**	**2**	**3.8**	**5.9**	**1**	**7.0**	**1**	**1.1**	**1**	**7.7**	**1**	**3.7**	**0**	**11.4**
S. AUSTRALIA																					
Adelaide ..	1	0.1	0	9.9	4.7	1	4.9	2.4	2	4.7	5.7	1	8.1	1	1.8	1	1.4	1	2.6	0	11.0
Moonta ..	1	1.4	0	10.4	5.0	1	5.5	2.7	2	5.5	5.9	1	7.5	1	2.0	0	11.6	1	2.8	1	0.8
Port Pirie..	1	1.4	0	10.4	4.6	1	4.7	2.8	2	10.4	5.5	1	8.9	1	2.4	1	0.9	1	3.2	1	0.4
Mt. Gambier	1	0.6	0	10.1	4.4	0	11.6	2.4	2	6.9	5.3	1	5.1	1	0.3	0	11.3	1	1.8	0	11.2
Petersburg	1	1.2	0	10.4	5.7	1	5.3	2.7	2	6.1	5.7	1	5.5	1	2.2	0	11.4	1	4.0	1	2.6
Weighted Aver.	**1**	**0.3**	**0**	**10.0**	**4.7**	**1**	**4.8**	**2.4**	**2**	**5.1**	**5.7**	**1**	**8.0**	**1**	**1.8**	**1**	**1.2**	**1**	**2.6**	**0**	**11.2**
W. AUSTRALIA																					
Perth ..	0	10.8	0	10.6	4.2	1	8.8	2.9	2	2.4	6.6	1	8.5	1	1.9	1	5.1	1	3.9	0	10.6
Kalgoorlie..	1	6.9	1	0.3	5.6	2	3.3	3.7	3	2.0	9.0	1	10.6	1	3.9	1	10.0	1	5.1	1	0.0
Mid. Junction	1	3.7	0	10.9	4.5	1	9.8	3.1	2	2.7	6.2	1	8.5	1	2.0	1	5.6	1	3.8	0	11.1
Bunbury ..	1	3.2	0	10.6	4.1	1	9.4	3.0	2	3.7	5.8	1	8.3	1	2.6	1	3.7	1	4.2	0	10.8
Geraldton	1	4.9	0	11.8	4.5	2	1.9	3.3	2	5.4	6.0	1	8.9	1	3.3	1	6.1	1	4.6	1	1.9
Weighted Aver.	**1**	**0.9**	**0**	**11.0**	**4.5**	**1**	**10.3**	**3.0**	**2**	**4.9**	**7.0**	**1**	**8.9**	**1**	**2.4**	**1**	**6.1**	**1**	**4.1**	**0**	**11.0**
TASMANIA																					
Hobart ..	0	10.6	0	9.3	5.1	1	3.7	3.0	2	2.3	6.0	1	7.7	1	1.9	1	6.7	1	3.8	0	10.7
Launceston	0	9.8	0	9.1	4.8	1	3.1	2.8	2	1.7	5.5	1	7.0	1	1.2	1	5.2	1	3.7	0	11.8
Zeehan ..	1	2.9	0	10.0	5.1	1	8.1	3.1	2	5.9	6.5	1	7.9	1	2.1	1	8.8	1	3.3	1	0.9
Beaconsfield	0	11.9	0	10.2	5.1	1	3.4	3.2	2	5.1	5.3	1	7.0	1	2.0	1	4.6	1	4.0	0	11.8
Queenstown	1	2.4	0	10.2	4.6	1	6.1	3.0	2	6.7	7.6	1	7.6	1	2.3	1	7.6	1	3.0	1	0.7
Weighted Aver.	**0**	**10.8**	**0**	**9.4**	**4.9**	**1**	**3.9**	**3.0**	**2**	**2.7**	**5.9**	**1**	**7.4**	**1**	**1.7**	**1**	**6,3**	**1**	**3.7**	**0**	**11.3**
Weighted Aver. Commonwealth	**1**	**2.6**	**0**	**10.3**	**4.8**	**1**	**4.2**	**2.8**	**2**	**3.3**	**5.9**	**1**	**7.2**	**1**	**1.6**	**1**	**6.7**	**1**	**4.2**	**0**	**11.5**

Average Current Retail Prices in Metropolitan and Country Towns, 1918—*Cont.*

Particulars.	Ham		Beef Fresh Sirloin	Beef Fresh Rib	Beef Fresh Flank	Beef Fresh Shin	Steak Rump		Steak sh'lder	Steak Stew-ing	Beef Co'n'd round	Beef Co'n'd brisket with bone	Beef Co'n'd brisket with-out bone	Mutt'n Leg
Unit of Quantity	per lb.		per lb.	per lb.	per lb.	per lb.	per lb.		per lb.	per lb.	per lb.	per lb.	per lb.	per lb.
	s.	d.	d.	d.	d.	d.	s.	d.	s. d.	s. d.	d.	d.	d.	d.
N.S. WALES														
Sydney ..	1	6.6	10.3	9.1	9.2	7.0	1	2.4	9.0	7.7	9.2	6.5	8.5	7.8
Newcastle	1	6.6	9.9	9.0	8.1	7.3	1	1.3	9.2	8.6	9.3	6.4	8.7	8.6
Broken Hill	1	4.9	11.0	10.2	7.8	8.8	1	4.1	11.9	11.5	11.0	8.6	10.2	9.9
Goulburn	1	4.2	9.4	8.2	6.6	7.4	1	0.5	8.7	8.5	9.6	7.7	8.9	8.5
Bathurst ..	1	5.3	9.4	8.6	6.7	6.8	0	11.8	8.4	8.1	8.7	7.2	8.5	8.6
Weighted Aver.	**1**	**6.5**	**10.3**	**9.1**	**9.0**	**7.1**	**1**	**2.3**	**9.1**	**8.0**	**9.3**	**6.6**	**8.6**	**7.9**
VICTORIA														
Melbourne	1	4.9	10.1	9.0	7.7	7.0	1	2.4	9.3	8.2	9.3	6.2	8.3	7.9
Ballarat ..	1	4.7	10.1	9.0	7.7	6.4	1	2.1	9.2	9.1	10.1	6.7	8.9	8.2
Bendigo ..	1	3.0	9.8	9.1	6.9	7.0	1	1.8	9.6	8.8	9.3	6.8	8.7	7.9
Geelong ..	1	5.0	9.7	9.2	7.1	6.2	1	1.5	9.0	8.6	9.3	6.9	8.5	8.3
Warrnambool	1	3.5	10.1	9.2	7.4	7.4	1	1.2	9.7	9.7	10.1	8.1	9.5	9.2
Weighted Aver.	**1**	**4.8**	**10.1**	**9.0**	**7.6**	**6.9**	**1**	**2.3**	**9.3**	**8.3**	**9.4**	**6.3**	**8.4**	**7.9**
QUEENSLAND														
Brisbane ..	1	6.6	8.6	6.4	6.4	5.1	0	10.0	6.9	6.9	7.7	4.7	6.8	8.8
Toowoomba	1	6.3	8.4	6.5	5.6	4.5	0	10.4	7.4	7.4	8.2	5.6	6.8	8.2
Rockhampt'n	1	7.2	8.4	6.9	6.0	4.7	0	9.4	6.8	6.7	7.1	5.1	6.2	8.5
Charters .. Towers..	1	8.4	8.4	6.6	6.3	5.4	0	9.4	7.4	7.3	7.4	5.4	6.0	8.7
Warwick ..	1	6.4	9.1	8.1	6.5	5.1	0	10.5	8.5	8.0	8.5	6.3	6.8	10.1
Weighted Aver.	**1**	**6.7**	**8.6**	**6.5**	**6.3**	**5.1**	**0**	**10.0**	**7.0**	**7.0**	**7.7**	**5.0**	**6.7**	**8.7**
S. AUSTRALIA														
Adelaide ..	1	4.5	10.3	9.5	9.1	8.0	1	2.5	9.9	9.6	10.4	7.7	9.1	9.2
Moonta ..	1	3.0	10.0	9.8	9.1	7.5	1	1.9	10.4	10.1	10.3	8.3	9.6	9.3
Port Pirie..	1	4.3	10.1	9.4	7.4	8.4	1	2.4	11.2	10.5	10.8	7.9	9.7	10.3
Mt. Gambier	1	2.2	9.4	8.5	7.5	7.9	1	0.2	9.2	9.3	10.0	8.1	9.4	9.5
Petersburg	1	5.8	9.3	9.0	7.5	8.8	1	2.5	10.9	10.2	10.6	8.0	9.5	9.8
Weighted Aver.	**1**	**4.3**	**10.3**	**9.5**	**8.9**	**8.0**	**1**	**2.4**	**9.9**	**9.6**	**10.4**	**7.8**	**9.2**	**9.3**
W. AUSTRALIA														
Perth ..	1	5.7	7.9	6.9	6.6	6.3	1	0.8	7.9	7.2	7.6	5.4	6.7	7.5
Kalgoorlie..	1	8.1	8.8	7.8	7.4	7.6	1	0.8	9.3	8.1	8.7	5.9	8.3	9.0
Mid. Junction	1	5.5	7.8	6.7	5.6	6.2	1	0.1	8.0	7.2	7.9	5.3	6.8	7.4
Bunbury ..	1	5.1	9.8	8.8	7.9	8.3	1	1.9	9.6	8.9	9.2	7.0	8.2	8.9
Geraldton	1	6.6	7.8	7.8	5.2	6.5	0	10.8	8.5	8.2	7.5	5.5	6.5	8.6
Weighted Aver.	**1**	**6.2**	**8.2**	**7.1**	**6.7**	**6.6**	**1**	**0.8**	**8.2**	**7.4**	**7.9**	**5.6**	**7.1**	**7.9**
TASMANIA														
Hobart ..	1	6.1	11.8	10.6	9.3	8.4	1	2.9	10.4	10.1	11.2	8.3	10.5	10.6
Launceston	1	5.9	11.0	10.2	8.4	8.4	1	1.9	10.0	9.8	10.4	8.0	9.6	10.1
Zeehan ..	1	3.7	11.9	11.1	10.0	9.5	1	1.6	10.8	10.6	11.4	9.6	11.0	11.4
Beaconsfield	1	3.8	11.2	11.0	8.2	8.3	1	1.3	11.1	10.6	10.4	8.3	9.5	10.5
Queenstown	1	3.3	10.4	9.8	8.6	8.0	1	1.9	11.2	11.4	11.6	9.4	11.0	11.6
Weighted Aver.	**1**	**5.7**	**11.4**	**10.4**	**9.0**	**8.4**	**1**	**2.4**	**10.4**	**10.1**	**11.0**	**8.3**	**10.2**	**10.5**
Weighted Aver. Commonwealth	**1**	**5.6**	**9.9**	**8.8**	**8.1**	**7.0**	**1**	**1.8**	**9.1**	**8.2**	**9.2**	**6.5**	**8.4**	**8.2**

Average Current Retail Prices in Metropolitan and Country Towns, 1918—*Cont.*

Particulars.	Mutt'n sh'lder	Mutt'n Loin	Mutt'n Neck	Chops Loin	Chops Leg	Chops Neck	Pork Leg	Pork Loin	Pork Belly	Pork Chops
Unit of Quantity	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
N.S. WALES										
Sydney ..	6.5	8.2	6.9	9.6	9.0	7.7	1 0.7	1 1.8	0 11.6	1 2.1
Newcastle	7.3	8.7	6.7	9.5	9.3	8.2	1 0.1	1 0.1	0 11.0	1 0.2
Broken Hill	9.1	10.6	8.4	11.3	11.1	10.3	1 0	1 0	0 11.8	1 2
Goulburn	7.3	8.8	6.4	9.3	8.9	7.3	0 11.1	0 11.4	0 10.9	0 11.6
Bathurst ..	7.6	8.8	5.9	9.0	8.9	7.3	0 10.6	0 10.9	0 9.8	0 11.3
Weighted Aver.	**6.7**	**8.4**	**6.9**	**9.7**	**9.1**	**7.8**	**1 0.5**	**1 1.5**	**0 11.5**	**1 1.9**
VICTORIA										
Melbourne	6.6	7.7	5.7	9.1	9.1	6.6	0 10.6	0 11.4	0 11.2	0 11.9
Ballarat ..	7.2	8.1	6.2	9.1	9.5	7.1	0 10.0	0 10.5	0 10.6	0 10.8
Bendigo ..	6.5	7.9	5.5	9.1	8.9	7.0	0 10.3	0 10.4	0 10.2	0 11.3
Geelong ..	7.4	8.5	6.4	9.2	9.2	7.2	0 11.3	0 11.4	0 11.4	1 0.3
Warrnambool	7.6	8.9	7.7	9.5	9.4	8.1	0 10.8	0 10.9	0 10.8	0 11.5
Weighted Aver.	**6.7**	**7.8**	**5.8**	**9.1**	**9.1**	**6.7**	**0 10.5**	**0 11.2**	**0 11.1**	**0 11.8**
QUEENSLAND										
Brisbane ..	6.5	8.8	8.1	9.2	9.3	8.9	0 11.7	0 11.7	0 10.3	1 0.2
Toowoomba	5.8	8.1	6.5	8.2	8.3	8.2	0 9.9	0 9.9	0 9.4	0 10.3
Rockhampt'n	6.2	8.6	7.2	8.6	8.6	8.1	0 11.1	0 11.1	0 10.1	0 11.7
Charters .. Towers..	6.6	8.6	7.0	9.5	9.6	9.3	0 10.0	0 10.0	0 9.7	0 10.0
Warwick ..	8.4	10.1	7.0	10.3	10.0	9.0	0 10.0	0 10.0	0 10.0	0 10.0
Weighted Aver.	**6.4**	**8.7**	**7.8**	**9.1**	**9.2**	**8.8**	**0 11.3**	**0 11.3**	**0 10.2**	**0 11.7**
S. AUSTRALIA										
Adelaide ..	7.8	9.0	7.1	9.7	10.2	8.3	0 10.4	0 11.0	0 11.0	0 11.7
Moonta ..	8.0	9.2	6.8	10.0	10.0	8.1	0 9.4	0 9.4	0 9.1	0 9.8
Port Pirie..	8.9	9.7	8.5	11.3	11.3	9.9	0 10.7	0 10.7	0 10.6	1 0.1
Mt. Gambier	9.1	9.5	8.7	10.0	10.0	8.7	0 10.6	0 10.6	0 10.4	0 10.8
Petersburg	8.4	9.4	8.1	10.9	10.7	9.0	0 9.1	0 9.1	0 9.1	0 9.9
Weighted Aver.	**7.9**	**9.1**	**7.2**	**9.8**	**10.2**	**8.4**	**0 10.3**	**0 10.9**	**0 10.8**	**0 11.6**
W. AUSTRALIA										
Perth ..	6.2	7.3	5.6	8.4	8.5	6.6	0 8.9	0 9.0	0 8.2	0 9.5
Kalgoorlie..	6.6	8.8	6.5	9.7	9.8	8.0	0 10.6	0 10.5	0 9.0	0 11.0
Mid. Junction	6.1	6.8	5.0	7.9	8.3	6.5	0 8.8	0 8.5	0 7.9	0 9.2
Bunbury ..	7.2	9.0	6.4	10.0	10.0	7.7	0 9.2	0 9.2	0 8.2	0 9.3
Geraldton	7.4	8.0	5.4	8.8	8.8	7.6	0 9.0	0 8.9	0 8.2	0 9.1
Weighted Aver.	**6.4**	**7.7**	**5.6**	**8.7**	**8.8**	**6.9**	**0 9.2**	**0 9.3**	**0 8.3**	**0 9.8**
TASMANIA										
Hobart ..	9.2	10.1	8.5	11.4	11.5	9.1	1 0.0	1 0.6	1 0.8	1 1.5
Launceston	9.3	10.0	8.2	11.0	10.6	8.9	11.4	0 11.7	0 11.5	1 0.0
Zeehan ..	10.2	10.9	9.3	11.8	11.8	10.1	0 11.7	0 11.7	0 11.6	1 0.0
Beaconsfield	8.9	10.4	8.6	11.4	11.3	10.3	0 10.2	0 10.2	0 10.2	1 0.1
Queenstown	10.6	11.0	9.7	11.7	11.7	10.0	1 0.0	1 0.0	1 0.0	1 0.0
Weighted Aver.	**9.3**	**10.2**	**8.5**	**11.3**	**11.2**	**9.2**	**0 11.7**	**1 0.2**	**1 0.2**	**1 0.8**
Weighted Aver. Commonwealth	**6.9**	**8.3**	**6.6**	**9.4**	**9.3**	**7.6**	**0 11.2**	**0 11.9**	**0 11.0**	**1 0.4**

APPENDIX V.

Current Weekly House Rents† in Metropolitan and Country Towns, 1918.

Town.	Average Predominant Weekly Rents for Houses having—													
	Under 4 Rooms.		4 Rooms.		5 Rooms.		6 Rooms.		7 Rooms.		Over 7 Rooms.		Weighted Average for all Houses.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
N.S. Wales—														
Sydney ..	12	6	15	4	18	6	21	9	24	11	29	7	19	6
Newcastle ..	7	7	10	3	13	7	16	8	19	4	25	2	13	3
Broken Hill* ..	6	9	10	1	13	1	15	8	18	6	23	0	11	0
Goulburn ..	8	1	11	8	15	5	20	10	25	3	31	2	17	7
Bathurst ..	6	4	8	3	11	1	14	5	19	2	27	7	12	4
Weighted Aver.	11	9	14	6	17	9	20	11	24	2	29	0	18	6
Victoria—														
Melbourne ..	10	4	13	3	16	10	20	5	24	6	30	3	18	5
Ballarat ..	4	8	5	5	8	3	11	0	12	10	17	11	9	10
Bendigo ..	4	5	7	2	10	2	13	3	15	9	23	3	11	0
Geelong ..	6	5	8	10	12	7	16	3	21	1	26	6	14	6
Warrnambool	5	2	9	1	11	9	14	0	17	1	19	10	12	4
Weighted Aver.	9	4	12	1	15	6	19	0	22	10	28	7	17	1
Queensland—														
Brisbane ..	6	9	9	0	11	7	15	7	18	9	25	10	14	1
Toowoomba ..	5	6	7	3	9	10	11	11	15	2	22	1	12	5
Rockhampton	7	6	7	11	9	11	13	3	15	4	20	1	12	5
Charters Towers	6	2	8	3	11	0	12	10	17	0	20	9	10	6
Warwick ..	5	1	5	9	9	4	14	4	15	3	21	1	12	2
Weighted Aver.	6	7	8	7	11	2	14	8	17	10	24	4	13	5
S. Australia—														
Adelaide ..	8	8	11	11	15	7	20	0	23	6	26	7	15	11
Moonta, etc. ..	6	3	8	8	11	2	14	9	17	2	18	2	11	8
Port Pirie* ..	10	0	12	4	14	7	15	9	18	6	21	1	13	8
Mt. Gambier	6	4	8	4	10	4	13	10	15	2	18	10	11	5
Petersburg ..	8	3	9	1	12	3	14	3	16	0	20	2	12	0
Weighted Aver.	8	6	11	7	15	1	19	3	22	7	25	7	15	5
W. Australia—														
Perth ..	9	0	11	8	14	6	17	9	20	9	25	11	13	10
Kalgoorlie ..	9	7	13	7	16	6	19	9	22	7	26	2	13	0
Mid. Junction	6	10	8	9	11	8	13	10	20	2	20	1	11	0
Bunbury ..	5	7	8	0	10	0	11	4	14	9	19	7	7	10
Geraldton ..	9	5	13	7	17	2	20	5	27	6	40	0	14	6
Weighted Aver.	8	11	11	10	14	8	17	11	21	1	25	11	13	5
Tasmania—														
Hobart ..	8	9	11	8	14	4	16	7	19	6	22	7	14	11
Launceston ..	7	10	10	3	13	10	16	8	19	3	23	3	14	6
Zeehan ..	2	9	5	1	6	6	7	11	10	6	13	0	4	9
Beaconsfield ..	2	0	2	4	3	5	4	1	5	10	6	10	3	2
Queenstown ..	6	9	10	4	12	5	14	3	15	10	20	0	9	8
Weighted Aver.	7	9	10	6	13	3	15	7	18	2	21	6	13	6
Weighted Aver. 30 Towns ..	9	9	12	5	15	8	19	1	22	6	27	7	16	8

* See remarks on page 45, paragraph (ii.). † The rents are shewn to the nearest penny.

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APPENDIX VI.

Average Annual Wholesale Prices in Melbourne, 1917 and 1918.

COMMODITY.	UNIT.	1917. s.	1917. d.	1918. s.	1918. d.
GROUP I. METALS		s.	d.	s.	d.
Iron—Pig— Mixed Nos.	ton	218	4	245	0
Rod and Bar	,,	483	9	559	2
Angle and Tee	,,	582	11	688	9
Plate ..	,,	1,063	4	1589	2
Hoop ..	,,	746	3	1127	6
Galvanized Corrugated	,,	1,243	4	1470	10
Wire, Fencing	,,	675	5	926	3
Zinc—Sheet ..	,,	2.775	0	2964	11
Lead—Sheet ..	,,	740	0	751	8
Piping ..	,,	820	0	821	8
Copper—Sheet	lb.	2	6	2	10½
Coal (on Wharf)	ton	29	0	29	0
Tinned Plates ..	cwt.	44	3	50	5
Quicksilver ..	lb.	7	2¼	8	0
GROUP II. TEXTILES LEATHER, &C.					
Jute Goods—					
Branbags ..	doz.	8	3¼	11	11
Cornsacks ..	,,	9	4	9	10½
Woolpacks ..	each	4	1¾	6	3½
Leather—					
Medium Crop	lb.	1	10¼	1	10
Waxed Kip ..	,,	2	4¾	2	6
Waxed Split	,,	1	4	1	4
Cotton—Raw ..	,,	1	3⅝	1	10⅜
Wool	,,	1	3 13/16	1	4⅞
Twine, Reaper and Binder ..	,,	*		*	
Tallow	ton	902	3	830	1
GROUP III. AGRICULT'L PRODUCE—					
Wheat	bushel	4	9	4	9
Flour	ton	215	0	215	0
Bran	,,	89	0	94	7
Pollard	,,	119	3	115	5
Oats	bushel	2	5½	3	10
Oatmeal ..	ton	360	0	467	0
Barley—Malting	bushel	4	4¾	5	9
Feed ..	,,	3	1½	4	0
Maize	,,	3	8½	5	2
Hay	ton	107	7	128	5
Straw	,,	38	0	52	2
Peas	bushel	6	3	6	7
Potatoes ..	ton	92	6	94	10
Malt	bushel	5	6¾	6	4
Chaff	ton	67	7	110	8
Onions	,,	157	4	278	11
GROUP IV. DAIRY PRODUCE—					
Ham	lb.	1	1½	1	2
Bacon	,,	1	0¼	1	0½
Cheese	,,	0	11½	1	0
Butter	,,	1	4	1	4¼
Lard	,,	0	10	0	8¾
Eggs	doz.	1	0½	1	0½
Honey	lb.	0	5	0	5
Beeswax ..	,,	1	10¾	2	1½
Condensed Milk	doz. tins	7	8	8	0½

COMMODITY.	UNIT.	1917. s.	1917. d.	1918. s.	1918. d.
GROUP V. GROCERIES, &C.—		s.	d.	s.	d.
Currants ..	lb.	0	6¾	0	7
Raisins	,,	0	6¾	0	7
Herrings ..	doz. 1 lb. tins	9	4	11	4
Salmon	,,	13	2	16	5
Sardines ..	doz. hlvs	11	3½	11	7½
Tea	lb.	0	9 9/16	0	10⅞
Coffee	,,	1	2	1	2
Cocoa	,,	1	3½	*	
Sugar	ton	587	6	587	6
Macaroni ..	lb.	0	4⅜	0	4⅜
Sago	ton	605	0	614	2
Rice	,,	640	0	*	
Salt—Fine ..	,,	*		*	
Rock ..	,,	*		*	
Mustard ..	doz. 1 lb. tins	28	6½	*	
Starch	lb.	0	7½	*	
Blue	,,	0	8⅝	*	
Matches ..	gross	4	1	4	6½
Candles ..	lb.	0	8¼	*	
Kerosene ..	gallon	1	8	2	0
Tobacco ..	lb.	5	9¼	6	3½
GROUP VI. MEAT—					
Beef	100 lb.	46	9	49	0½
Mutton	lb.	0	5 9/16	0	5⅝
Lamb	,,	0	6⅜	0	6
Veal	,,	0	6½	0	6
Pork	,,	0	7½	0	6⅝
GROUP VII. BUILDING MATERIAL—					
Timber, Flooring					
6 x 1¼ ..	100 ft. lin	22	6	25	1
6 x ⅞ ..	,,	18	5	22	0
6 x ¾ ..	,,	18	4	21	8
6 x ½ ..	,,	14	8	17	11
Weatherboards	,,	13	2	18	11
Oregon	1000 ft sp	266	10	375	8
Shelving ..	,,	468	9	779	2
Cement ..	cask	20	5	24	0
White Lead ..	ton	1466	8	1700	0
Slates	1000	468	4	620	0
GROUP VIII. CHEMICALS—					
Cream of Tartar	lb.	2	7½	4	0
Carbonate of Soda	ton	443	9	307	5
Saltpetre ..	,,	1428	4	1388	8
Sulphur ..	,,	452	1	487	4
Caustic Soda ..	cwt.	*		901	6
Potassium Cyanide ..	lb.	1	0	1	7½
Alum	ton	591	8	700	0

* Not available.

NOTE.—Many of these prices are the average, not of all classes of commodities, but only of certain brands which have been on the market for a great number of years, and which were adopted for the purpose of computing index numbers shewing the general fluctuations in prices from year to year.

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APPENDIX VII.

Minimum Rates of Wage for Adult Male Workers in the Main Occupations in the Capital Town of each State for a Full Week's Work, at 31st December, 1918.

NOTE.—Ruling or predominant rates of wage are distinguished from Award, Determination or Industrial Agreement rates of wage by an asterisk (*). Except where otherwise specified by a numerical prefix in small type, the hours of labour constituting a full week's work are forty-eight. Award, Determination or Agreement Rates are quoted from the latest Awards, Determinations, or Agreements made, but which were not invariably in force on the 31st December, 1918. It is found, however, that in those States in which Awards, Determinations or Industrial Agreements are made for a specified period, that pending further review of the rates of wage and hours of labour, those previously determined or agreed upon are usually maintained. Where two or more Award, Determination or Agreement Rates are quoted, the reason for such is that different rates of wage have been fixed for various classes or grades of work. It will be seen that in certain cases of this nature the wages are shewn in the form, say, 60s. to 67s., indicating that in addition to the two rates specified, there are also certain intermediate rates in force. In other cases the rates are shewn in the form 60s. and 65s., indicating that there are only two minimum or standard rates in force for different classes and grades of work, and that there are, of course, no intermediate minimum or standard rates.

GROUP I.—WOOD, FURNITURE, SAW MILL AND TIMBER YARD.

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Coopering.												
Coopers	81/ & 85/		81/ & 85/		[6]81/ & 85/		81	0	81	0	81	0
Furniture and Bedding.												
Bedding Makers	75	0	66	0	[6]69	8	62	6	69	0	60	0
Boults Carver Operators	75	0	73	0	[6]77	11	62	6*	78	0	72	0
Cabinetmakers	79	0	70	0	[6]77	11	67	6	72	0	68	0
Carpet Cutters	86	0	75	0	..		..		..		68	0
„ Layers	72	0	70	0	47/6 to 68/		56	0*	..		68	0
„ Planners	72	0	75	0	..		..		..		68	0
Chairmakers	79	0	70	0	[6]77	11	67	6	72	0	68	0
Drape Cutters	86	0	70	0	..		..		..		..	
French Polishers ..	79	0	70	0	[6]71	6	67	6	69	0	68	0
Upholsterers	79	0	70	0	[6]71	6	67	6	69	0	68	0
Wood Carvers	79	0	70	0	[6]77	11	67	6	78	0	68	0
„ Machinists.. ..	79	0	67	0	[6]66/ to 77/11		67	6	75	0	61/ to 65/	
„ Turners	79	0	70	0	[6]77	11	67	6	72	0	68	0
Mattress Making (Wire).†												
Finishers	67	6	65	0	[6]69	8	60	0	..		60	0
Makers	67	6	65	0	[6]69	8	60	0	69	0	60	0
Varnishers	67	6	65	0	[6]69	8	56	0	..		60	0
Organ Building.												
Journeymen	80	0	58	0	[6]60/ to 72/6		66	0*	..		..	
Overmantels and Mantelpieces												
Journeymen	67	0	70	0	66/ to 77/11		65	0	72	0	68	0

Various numbers of hours constituting a full week's work.

(1) 18 hours. (1*a*) 15 hours. (2) 30 hours. (3) 33 hours. (4) 36 hours. (4*a*) 41½ hours. (4*b*) 40 hours. (5) 42 hours. (5*a*) 43 hours. (5*b*) 43½ hours. (5*c*) 43⅔ hours. (6) 44 hours. (7) 44½ hours. (8) 45 hours. (9) 45½ hours. (10) 46 hours. (10*a*) 46¼ hours. (11) 46½ hours. (11*a*) 46⅔ hours. (12) 47 hours. (12*a*) 47½ hours. (13) 47⅔ hours. (14) 49 hours. (15) 49⅓ hours. (16) 49½ hours. (17) 50 hours. (18) 51 hours. (18*a*) 51¼ hours. (19) 52 hours. (20) 52¼ hours. (21) 52½ hours. (22) 53 hours. (23) 53¼ hours. (24) 53½ hours. (25) 54 hours. (26) 54½ hours. (26*a*) 54⅔ hours. (27) 55 hours. (27*a*) 55¼ hours. (27*b*) 55½ hours. (28) 56 hours. (28*a*) 50¼ hours. (29) 56½ hours. (30) 57 hours. (31) 58 hours. (32) 59 hours. (33) 60 hours. (33*a*) 62 hours. (34) 63 hours. (35) 65 hours. (36) 70 hours. (37) 72 hours. (38) 77 hours. (38*a*) 88 hours per fortnight. (38*b*) 86 hours per fortnight. (38*c*) 84 hours. (39) 7 nights. (39*a*) 96 hours per fortnight. (39*b*) 98 hours per fortnight. (39*c*) 112 hours per fortnight. (39*d*) 114 hours per fortnight. (40) 116 hours per fortnight. (40*a*) 120 hours per fortnight. (41) 136 hours per fortnight. (42) 144 hours per fortnight. (42*a*) 156 hours per fortnight. (43) 50 hours (summer), 46 hours (winter). (43*a*) 50 hours (summer), 48 hours (winter). (44) 52 hours (summer), 45 hours (winter). (44*a*) 52 hours (day), 48 hours (night). (45) 54 hours (summer), 48 hours (winter). (46) 54½ hours (summer), 52½ hours (winter). (47) 55 hours (summer), 46 hours (winter). (47*a*) 55 hours (summer), 50 hours (winter). (47*b*) 55 hours (summer), 52 hours (winter). (48) 55 hours (summer), 54 hours (winter). (48*a*) 56 hours (summer), 44 hours (winter). (48*b*) 55½ hours (summer), 54½ hours (winter). (49) 56 hours (summer), 48 hours (winter). (49*a*) 56 hours (summer), 52 hours (winter). (49*b*) 56 hours (summer), 53 hours (winter). (50) 57 hours (summer), 44 hours (winter). (50*a*) 57 hours (summer), 48 hours (winter). (50*b*) 57 hours (summer), 52½ hours (winter). (51) 58 hours (summer), 46 hours (winter). (52) 58 hours (summer), 50 hours (winter). (53) 58 hours (summer), 56 hours (winter). (54) 59 hours (summer), 58 hours (winter). (55) 60 hours (summer), 56 hours (winter). (56) 60 hours (summer), 58 hours (winter). (57) 84 hours and 72 hours alternate weeks. (58) 48 hours, 51 hours, 54 hours (four months each in each year). (59) 56 hours and 59 hours within certain radius. (60) 56 hours and 60 hours within certain radius. (61) 58 hours (summer), 54 hours (winter). (62) 176 hours per month. (63) 200 hours per month.

† Sydney rates from 7/1/19.

GROUP I.—WOOD, FURNITURE, SAWMILL AND TIMBER YARD—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Piano Making.						
Cabinet Makers	67 0	65 0	60/ to 72/6	67 6*	..	..
Framemakers, Iron ..	72 0	66 0	..	..	..	..
,, Wood ..	67 0	65 0	..	..	..	..
French Polishers ..	67 0	65 0	67 6	67 6*	..	..
Veneerers	67 0	50/ & 60/	72 6	..	..	..
Wood Carvers	67 0	60 0	..	67 6*	..	..
,, Turners	67 0	60 0	..	67 6*	..	..
Picture Framing.						
Compo. Workers ..	60 0	59 0	^{6}71 6	..	..	..
Fitters Up	60 0	59 0	^{6}71 6	60 0*	^{17}60/to 66/*	..
General Hands	60 0	57 0	^{6}60 0	50/ to 60/*	^{17}60 to 66/*	†60 0*
Gilders	65 0	64 0	^{6}71 6	63 0*	..	..
Joiners	65 0	64 0	^{6}71 6	60/ to 70/*	^{17}60/to 66/*	..
Mount Cutters	65 0	64 0	^{6}71 6	60/ to 70/*	^{17}60/to 66/*	..
Sawyers (Band or Jig) ..	60 0	63/ & 69/	^{6}71 6	60/to 68/6*	..	..
Saw Milling & Timber Yards.						
Box and Case Makers ..	66 0	65 0	70 0	61 0	66 0	..
Labourers	60 6	61 0	69 0	58 0	57 6	55 6
Machinists, Box Printing	60 6	62 6	70 0	59 6	..	60 0
,, Boults Carver	75 0	74 0	76 0	67 0*	..	72 0
,, Buzzer or Jointer	69 0	68 0	71 0	67 0	60 6	63 0
,, General Jointer	75 0	71 0	..	67 0*	75 6	72 0
,, Morticing or Boring	61 6	64 0	70 0	64 0	60 6	60 0
,, Moulding ..	68 0	68 0	76 0	67 0	63/6 & 69/6	63/ & 67/6
,, ,, own Grinder	74 0	73 0	..	71 6	..	72 0
,, Nailing ..	60 6	65 0	70 0	59 6	63 0	60 0
,, Planing ..	66 0	68 0	71 0	62 6	75 6	63 0
,, Sandpapering	62 6	65 0	70 0	64 0	60/ & 63/6	63 0
,, Shaping ..	75 0	74 0	90 0	67 0	78 6	72 0
,, Tenoning ..	69 0	68 0	71 0	64 0	63 6	63 0
Ordermen	64 6	66 0	72 0	64 0	66 6	61 6
Pullers or Tailers Out ..	60 6	61/ & 62/	69/ to 72/	58/ & 61/	60 6	57/ & 58/6
Saw Doctors	84 0	80 0	86 0	79 0	80/ to 90/*	75 0
,, Sharpeners ..	72 0	68 0	77 0	70 0	72 0*	63 0
Sawyers, Band or Jig ..	74 0	66/ to 71/	79 0	64 0	66 6	64 6
,, Circular ..	60/6 to 72/	65/ & 68/	75 0	64/ & 70/	63/6 & 69/6	60/ to 66/
,, Gang Frame ..	62 6	66/ & 68/	72 0	73 0	66 6	61 6
,, Recut Band ..	60/6 to 72/	66/ to 72/	76 0	73 0	66 6	64 6
Stackers	^{6}77 0*	66 0	^{6}78 10	^{6}80 8	60 6	55 6
Talleymen	64 6	66 0	75 0	64 0	60 6	60 0
Wood Turners	75 6	70 0	79 0	69 0	72 0	63 0
Undertaking.						
Coachmen	^{24}62 6	^{19}62 0	75 0†	^{17}55 0	^{29}60 0	50 0*
Coffin Makers or Trimmers	72 0	66/ & 70/	75 0†	64 0	60 0† & 70 0	..
Venetian Blind Making.						
Journeymen	63/ & 65/	60 0*	^{6}69 8	60 0*	..	65 0

GROUP II.—ENGINEERING, METAL WORKS, ETC.

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Agricultural Implements.						
Assemblers	60 6	61 0	^{11}65 0	57 0	62 0	..
Blacksmiths	68 0	72 0	..	66 0	78 0	..
Bulldozermen	59 0	67 0	..	63 0	69 6	..
Carpenters	67 6	71 0	..	66 0	..	..
Drillers	59 0	61 0	..	56 0	63/6 &69/6	..
Engine Drivers	67/ & 71/6	57/ to 69/	..	60 0	..	..
Fitters	62/ & 68/	60/ & 66/	..	66 0	75 6	..
Grinders	59 0	64 0	..	56 0	..	..
Labourers (unskilled) ..	57 0	58 0	..	54 0	57 6	..
Machinists, Iron ..	59/ to 68/	64 0	..	57/ & 60/	..	..
,, Wood ..	59/ to 68/	67 0	..	57/ & 60/	..	..
Painters (Brush) ..	60 6	61 0	..	56 0	..	..
,, (Scroll) ..	67 6	71 0	..	66 0	..	..
Patternmakers	76 0	78 0	..	72 0	84 6	..

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* Ruling or predominant rates, see note at top of page 246. † 44 and 48 hours per week.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP II.—ENGINEERING, METAL WORKS, ETC.—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Agricultural Implements-*cont*						
Sheet Iron Workers ..	59 0	65 0	..	60 0	..	..
Storemen	58 6	58 0	^{12}65 0	54 0	..	..
Strikers	60 6	61 0	..	57 0	60 6	..
Turners	68 0	71 0	..	66 0	75 6	..
Wheelwrights	67 6	71 0	..	66 0	..	..
Bedstead Making (Metallic).						
Blacksmiths	57/ to 69/	62 0	60 6	62 0	..	..
Chillfitters (Modellers) ..	65 0	77 0	74 3	77 0	..	..
" (Other) ..	65 0	65 0	57/9 to 66/	65 0	..	..
Chippers	61 0	59 0	56 3	59 0	..	..
Cutters, etc.	61 0	60 0	56 3	60 0	..	..
Electroplaters	65 0	73 0	^{6}71 6	73 0	..	..
Fitters Up	62 0	62/ & 65/	57 9	62 0	..	..
Foundry Hands	61 0	60 0	54/ & 56/3	63 0	..	..
Frame Setters	64 0	63 0	63 3	63 0	..	..
Furnacemen	65 0	60 0	58 6	60 0	..	..
Japanners	60 6	62 0	55 0	56/ & 62/	..	..
Lacquerers	64 0	60 0	55 0	60 0	..	..
Mounters	60 6	62 0	55 0	60/ & 62/	..	..
Polishers	61 0	60 0	49 6	60 0	..	..
Boiler Making.						
Journeymen	85 6	77 0	^{6}78 10	84 0	72 0	80 0
Railway Men	78/ to 86/	75/ to 81/	81 0	75/ to 81/*	78 6	69/ to 72/*
Brass Working.						
Coremakers	68/ & 72/	63 0	^{6}78 10	63 0	72 0	..
Dressers	59 0	57 0	^{6}55 0	57 0	72 0	..
Finishers	70 0	69 0	^{6}78 10	69 0	72 0	80 0
Furnace Men	63 0	59 6	^{6}62 4	60 0	66 0	63 0
Moulders	68/ & 72/	69 0	^{6}78 10	69 0	72 0	72/ & 80/
Polishers	60 0	62 0	^{6}78 10	62 0	..	..
Cycles and Motors.						
Assemblers	63 6	61/ & 63/6	^{6}78 10	55/ to 70/*	75 6	52 0
Cleaners	60 0	61 0	^{6}60 6	50 0*	..	52 0
Filers	61 0	61 0	^{6}60 6	50 0*	75 6	52 0
Fitters	65 6	63 6	^{6}78 10	60/ to 75/*	75 6	65 0
Frame Builders	63/6 &65/6	61/ &66/	^{6}78 10	60/ to 65/*	..	55 0
Repairers	63/6 &65/6	61/ &63/6	^{6}78 10	60/ to 70/*	..	50/ & 52/
Turners (Cycle)	65 6	..	..	84 0	75 6	65 0
" (Motor) ..	74 6	73 6	..	84 0	..	65 0
Wheel Builders	61 0	61 0	^{6}60 6	..	..	55 0
Electrical Installation.†						
Armature Winders ..	82 0	79 0	89 0	81 0	75 6	80 0
Cable Jointers	82 0	86 0	86 0	81 0	..	73 6
Fitters	82 0	79 0	89 0	81 0	75 6	80 0
Linesmen	74 0	79 0	77 0	73 0	66 6	66/ & 72/
Mechanics	74 0	79 0	86 0	79 0	75 6	80 0
Patrolmen	..	66 0	..	79 0	..	73 6
Wiremen	74 0	79 0	77 0	74 0	69 6	67 6
" Assistant ..	..	66 0	65 0	..	..	60 0
Other Adults	..	66 0	65 0	63 0	57 6	60 0
Electrical Supply.						
Armature Winders ..	82 0	72 0	89 0	81 0	75 6	80 0
Cable Jointers	82 0	75 0	86 0	81 0	..	73 6
Carboner (arc lamp attend.)	62 0	65 0	71 0	69 0	..	66 0
Instrument Makers ..	70 0	72 0	89 0	79 0	75 6	80 0
Linesmen	74 0	72 0	77 0	73 0	66 6	66/ & 72/
Meter Fixers	74 0	65 0	..	69 0	..	63 0
" Testers	72 0	72 0	89 0	75 0	..	65 0
Patrolmen (Night) ..	57 0*	75 0	..	79 0	..	73 6
Shift Electricians ..	82 0	75 0	79/ to 93/	..	..	87 0
Sub-Station Attendants ..	..	69 0	..	..	..	70 0
Switchboard Attendants	60 0	63 0	65 0	67 0	..	60 0
Switchmen	..	61 6	..	73 0	..	..
Other Adults	..	60 0	65 0	63 0	..	60 0

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* Ruling or predominant rates, see note at top of page 246.

† In Melbourne the current Wages Board Determinaton provides for special rates for night shifts.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP II.—ENGINEERING, METAL WORKS, ETC.—*continued.*

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Electrical Trades.												
Fitters	82	0	79	0	89	0	81	0	75	6	80	0
Mechanics..	74	0	79	0	86	0	79	0	75	6	80	0
Wiremen	74	0	79	0	77	0	74	0	69	6	67	6
Electroplating.												
Makers Up	64	0	59	0	..		63	0*	..		..	
Platers	70	0	76	0	^{6}71	6	66	0	66	0	60	0
Polishers	64/ & 66/		67	0	^{6}63/3 & 71/6		60	0*	..		..	
Engineering.†												
Blacksmiths	87	6	83	0	^{6}82	6	72	0	81	6	80	0
Bolt and Nut Machinists	66	6	68/ & 71/		..		60	0*	63	6*	..	
Borers and Slotters ..	75/6& 83/6		83	0	^{6}73	4	75/ & 78/		69	6	80	0
Brassfinishers	85	6	69	0	^{6}78	10	75	0	75	6	80	0
Coppersmiths	87	6	83	0	^{6}82	6	86	0	81	6	80	0
Drillers (Radial) ..	83	6	68	0	^{6}66	0	67	0	63	6*	80	0
,, (Other) ..	66	6	68	0	^{6}66	0	67	0	63	6	80	0
Drophammer Smiths ..	81	6	83	0	^{6}78	10	..		81	6	..	
Fitters	85	6	83	0	^{6}78	10	84	0	75	6	80	0
Lappers and Grinders ..	66	6	71	0	^{6}78	10	80	0	..		..	
Millers (Universal) ..	83	6	83	0	..		84	0	75	6	80	0
,, (Other) ..	75/6& 83/6		71	0	^{6}78	10	80	0	69	6	80	0
Oliversmiths	81	6	83	0	^{6}78	10	..		81	6	..	
Pattern Makers	89	6	89	0	^{6}84	4	87	0	84	6	80	0
Planers(Rail & Plate Edge)	75/6& 83/6		71	0	^{6}66	0	68	0	69	6	..	
,, (Other)	75/6& 83/6		83	0	^{6}73	4	75	0	69	6	80	0
Shapers	75/6& 83/6		71/ & 83/		^{6}73	4	75	0	69	6	80	0
Springsmiths	79	6	83	0	..		75	0*	81	6	..	
Turners	85	6	83	0	^{6}78	10	84	0	75	6	80	0
Farrying.‡												
Firemen	80	0	77	0	^{12}67	6	69	0	66	0*	50	0*
Floormen	75	0	71	0	^{12}67	6	63	0	60	0*	44	0*
Shoeingsmiths	80	0	77	0	^{12}67	6	69	0	66	0*	50	0*
Ironworkers' Assistants.												
Boilermakers' Helpers ..	66	0	60	0	^{6}55	0	69	0	57/ to 60/		63	0
,, Labourers	63	0	57	0	^{6}55	0	69	0	54	0	60	0
Engineers' Labourers ..	63	0	63	0	^{6}55	0	69	0	57	0	80	0
Furnacemen's Assistant	68	0	66	0	^{6}55	0	63	0	60	6*	..	
General Labourers ..	63	0	57/ to 63/		^{6}55	0	69	0	54/ to 60/		60	0
Moulders' Labourers ..	63	0	63/ & 64/6		^{6}55	0	60	0	54	0	60	0
Strikers	68	0	66	0	^{6}55	0	69	0	57	0	63	0
Moulding (Iron.)§												
Coremakers (Machine) ..	72	0	71	0	^{6}78	10	78	0	66	0	80	0
,, (Other) ..	72	0	77/ & 83/		^{6}78	10	78	0	66	0	80	0
Dressers and Fettlers ..	68	0	66	0	^{6}55	0	63	0	60	6*	60	0
Furnacemen	72/ & 74/		69	0	^{6}62	4	70	0	69	6*	63	0
Moulders (Machine) ..	68	0	71	0	^{6}75/2&78/10		69	0	66	0	80	0
,, (Other) ..	72	0	77/ & 83/		^{6}78	10	78	0	66	0	80	0
Moulding (Piano Frames)												
Moulders	67/ & 71/		77	0	..		..		..		..	
Moulding Pipes (Bank).§												
Casters and Finishers ..	68	0	68	0	..		72	0*	66/ to 84/		..	
Coremakers	68	0	77/ & 83/		^{6}78	10	72	0*	60	0	..	
Footmen (4-in. and under)	74	0	71	0	^{6}78	10	69	0*	66	0	..	
,, (5 and 6-ins.)	76	0	74	0	^{6}78	10	69	0*	72	0	80	0
Headmen (4-in. and under)	80	0	77	0	^{6}78	10	78	0*	72	0	..	
,, (5 and 6-ins.)	82	0	83	0	^{6}78	10	78	0*	78	0	80	0
Moulding Pipes (Machine).												
Coremakers (Faucet) ..	68	0	77/ & 83/		..		..		..		..	
,, (Spigot) ..	68	0	71/ & 74/		..		..		..		..	
Finishers and Casters ..	68	0	77/ & 83/		^{6}57	9	..		..		..	

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* Ruling or predominant rates, see note at top of page 246. † In Melbourne the current Wages Board Determination provides for special rates of wage for night shifts. ‡ Melbourne rates from 14/1/19. § Hobart rates from 1/1/19.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP II.—ENGINEERING, METAL WORKS, ETC.—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Moulding Pipes (Vertical).†						
Casters	68 0	68 0	^{6}57 9	..	69 6	80 0
Coremakers	68 0	68 0	^{6}78 10	78 0*	69 6	80 0
Corers	68 0	68 0	^{6}57 9	..	63 6	..
Rammers	68 0	68 0	^{6}52 3	78 0*	69 6	80 0
Moulding (Steel).						
Coremakers	72 0	71/ to 83/	..	78 0	75 6*	..
Moulders	72 0	71/ to 83/	^{6}78 10	69/ & 78/	75 6*	..
Moulding (Stove).						
Moulders	67/ & 71/	77 0	^{6}69 8	60 0	72 0*	..
Ovenmaking.						
Blacksmiths	65 0	61 0	..	52 0	66/ to 72/*	..
Grinders and Polishers ..	64/ & 65/	63 0	^{6}55 0	54 0	70 0*	..
Ovenmakers	67/ & 71/	65 0	^{6}69 8	52 0	60/ to 72/*	..
Sheet Metal Working.						
Canister Makers	60 0	56/ & 63/	64 0	63 0	57 6	..
Japanners (Coating or Brushwork)	..	56 0	66 0	56 0	..	..
Japanners (Grainers, Liners etc.)	..	60 0	66 0	60 0	..	..
Japanners (Ornamental)	..	66 0	66 0	66 0	..	..
Machinists	60/ & 65/	62 0	66 0	56/ & 62/	57 6	..
Solderers	60/ & 63/	59/ & 63/	66 0	55 0	57 6	51 0
Tinsmiths	73 0	66 0	66 0	66 0	68 0	63 0
Wireworking (Barbed Wire).						
Toolsharpener or Machinist	66 0	57 0	..	57/ & 63/	..	..
Galvanising—						
Galvanisers	63 0	66 0	80 0	60 0*	..	..
Picklers	63 0	61 0	66 0	60 0*	..	..
,, (Assistant) ..	63 0	56 0	..	..	..	..
Nailmaking—						
Case Wirers	59 0	51 0	..	57 0	..	..
Labourers	57 0	51 0	..	57 0	..	..
Setters Up	66 0	60 0	..	60/ to 72/	..	..
Storemen	57 0	56 0	..	60 0	..	..
Toolmakers	78 0	63 0	..	60 0	..	..
Wire Netting Working—						
Hand-Loom Weavers ..	64 0	57 0	..	50 0	..	..
Power-Loom Weavers ..	55 6	57 0	..	50 0	..	..
Strikers	57 0	51 0	..	..	..	..
Wire Working—						
Journeymen	64 0	63 0	..	60 0	60/ to 70/*	65 0*

GROUP III.—FOOD, DRINK, TOBACCO, ETC.

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Aerated Waters and Cordials.						
Bottlers	62 6	54 0	62 6	54 0	62 0	45 0
Bottlewashers	60 6	50 0	60 0	54 0	58 6	45 0*
Drivers (Motor)	65/ & 68/	66 0	65/ & 69/	65/ & 70/	..	66 0
,, (One Horse) ..	60 6	^{17}61 0	^{19}61 0	^{42}61 0	63 0	61 0
,, (Two Horse) ..	63 6	^{17}66 0	^{19}66 0	^{42}64 0	63 0	66 0
Grooms or Stablemen ..	60 6	^{18}60 0	^{22}60 0	^{42}60 0	^{22}58 6	^{18}60 0
Loaders	60 6	50 0	60 0	54 0	58 6	45 0
Packers	60 6	50 0	60 0	54 0	62 0	45 0
Wirers	60 6	50 0	..	54 0	58/6 & 62/	45 0
Baking (Bread).						
Board Hands	70 0	84 0	^{8}67/6 & 70/	71 0	67 6	60 0
Carters (One Horse) ..	^{25}60 0	^{25}60 9	^{17}61 0	^{25}60 0	^{25}60 0	^{17}61 0
,, (Two Horses) ..	^{25}60 0	^{25}60 9	^{17}66 0	^{25}60 0	^{25}60 0	^{17}66 0
Doughmen	72/6 & 75/	84 0	^{6}72 6	71 0	67 6	60 0
Forehands	75/ & 80/	92 0	^{8}75/ & 80/	71 0	68 0	70 0
Ovenmen	75 0	84 0	^{8}70/ & 75/	71 0	68 0	60 0
Singlehands	75 0	92 0	^{8}75 0	71 0	68 0	65 0

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* Ruling or predominant rates, see note at top of page 246. † Hobart rates from 1/1/19.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP III.—FOOD, DRINK, TOBACCO, ETC.—*continued.*

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d*	*s.*	*d.*
Baking (Biscuits and Cakes).‡												
Adult Males	56	0	60	0	63	0	60	0*	60	0*	..	
Bakers	67	6	66	0	72	6	60/ to 70/*		60/ to 75/*		57	6
Brakesmen	60	0	62	0	65	0	55/ to 60/*		50/ to 60/*		52	0
Mixers	60	0	66	0	72	6	65/ to 70/*		60/ to 70/*		60	0
Oven Firemen	56	0	62	0	65	0	63/ to 66/*		60/ to 75/*		57	6
Storemen	60	0	60	0	68	6	60	0*	60/ to 70/*		..	
Brewing.												
Adult Males	63	0	63	0	63	0	63	0	63	0	60	0
Bottle Packers	63	0	63	0	63	0	63	0	63	0	60	0
Bottlers and Washers ..	63	0	63	0	63	0	63	0	63	0	60	0
Cellarmen	66	0	66	0	66	0	66	0	63	0	63	0
Drivers (One Horse) ..	^{19}60	0	^{17} ^{19}60/&61/		^{19}61	0	^{17}60	0	63	0	^{17} 61	0
„ (Two Horses)	^{19}63	0	^{17} ^{19}60/&66/		^{19}66	0	^{17}63	0	63	0	^{17} 66	0
„ (Motor, under 3 tons)	^{19}63	0	‖63/ to 70/		65/ to 70/		^{17}63	0	..		66/ & 70/	
„ („ 3 tons & over)	^{19}66	0	‖66/ & 74/		73/ & 75/		^{17}66	0	70/6 &73/		74	0
Engine Drivers	75	0	75	0	71/ to 91/		81	0	75	0*	72	0*
Firemen	72	0	69	0	71	0	75	0	66	0	66	0*
Greasers and Trimmers	63	0	63	0	69	0	69	0	66	0*	..	
Malt Hands	66	0	66	0	63	0	66	0	63	0	60	0
Stablemen and Grooms	^{19}60	0	^{18} ^{19}60	0	^{20}60	0	^{17}60	0	^{20}63	0	^{18}60	0
Towermen	65	0	63/ & 66/		66	0	66	0	63	0	60	0
Butchering (Carcase).												
Carters (One Horse) ..	^{25}62	6	..		65	0	^{17}61	0	^{33}70	0	^{17}61	0
„ (Two Horses) ..	^{25}70	0	^{19}60	0	65	0	^{17}64	0	^{33}70	0	^{17}66	0
Chilling Room Hands ..	60/ & 72/		66	0	72	6	..		^{6}60	0	..	
Labourers (Beef) ..	72	0	^{12}60	0	62	6	^{12}60	0	^{6}70	0	52	6
(Mutton) ..	60	0	^{12}60	0	62	6	^{12}60	0	^{6}60	0	52	6
Scalders	60/ & 72/		70	0	72	6	^{7}72	6	^{6}70	0	52	6
Slaughtermen (Beef)§ ..	100	0	^{12}80	0	82	6	^{7}87	6	^{6}80	0	52/6 & 65/	
„ (Mutton)	†		^{12}80	0	82	6	^{7}85	0	^{6}80	0	52/6 & 65/	
Butchering (Retail).												
Carters (Cash Cutting) ..	77	6	^{19}70	0	72	6	..		67	6	^{26}57	6
„ (One Horse) ..	60	0	^{19}60	0	62	6	^{19}60	0	60	0	^{17}61	0
„ (Two Horses) ..	60	0	^{19}60	0	65	0	^{19}60	0	60	0	^{17}66	0
General Hands	65	0	70	0	72	6	70	0	67	6	^{26}57	6
Salters	77	6	70	0	72	6	70	0	67	6	^{26}57	6
Shopmen	70	0	70	0	72	6	70	0	67	6	^{26}57	6
	& 77	6							& 78	9	to 65	0
Smallgoodsmen	77	6	70	0	72	6	70	0	78	9	^{26}65	0
„ (Assistant)	70	0	70	0	62	6	70	0	67	6	^{26}57	6
Butter Making.												
Buttermakers	73	0	63	0	75	0	75	0*	..		..	
Cream Graders	65	0	70	0	70	0						
Cream or Milk Testers ..	60	0	66	0	70	0						
Machinists (Milk Drying, etc.)	..		60	0	..		..		..		..	
Machinists (Pasteurizer)	60	0	58	0	..		..		..		..	
„ (Separator, Weighing, etc.)	60	0	58	0	..		..		..		..	
Other Adults	60	0	57	0	60	0	61/ to 63/*		..		..	
Storemen or Packers ..	60	0	58	0	..		65	0	..		..	
Cheesemaking.												
Journeymen	..		^{25}67	6	75	0	75	0*	..		..	
Other Adults	..		^{25}57	0	60	0	..		..		..	
Cold Storage and Ice. §												
Carters (Motor)	^{45}61	0	50	0	65	0	65/ & 70/		66	0	66/ & 70/	
	& 63	0										
„ (One Horse) ..	^{45}60	0	^{43}*a*63/ &65/		^{19}61	0	^{17}61	0	^{17}61	0	^{17}61	0
„ (Two Horses) ..	^{45}61	0	^{43}*a*68/ &70/		^{19}66	0	^{17}64	0	^{17}66	0	^{17}66	0
	& 60	0										
Chamber Hands	68	6	78	0	72	0	60/ & 65/*		66	0*	64	0*
	& 71	6										
Pullers and Stackers ..	62	6	72	0	64	0	60/ & 65/*		66	0*	64	0*
Rabbit Packers	60	0	68	0	..		..		..		..	

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* Ruling or predominant rates, see note at top of page 246. † Piece-work rates. ‡ Melbourne rates from 17/1/19. § Sydney rates from 3/1/19. ‖ 48 and 52 hours per week.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP III.—FOOD, DRINK, TOBACCO ETC.—*continued.*

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Confectionery.												
Journeymen	75	0	72	0	70	0	67	6	60	0	65	0*
Labourers	57	0	54	0	62	6	55	0	50	0	..	
Storemen (Head) ..	60 0 to 70	0*	68	0	70/ to 95/		65	0	60	0	..	
" (Other) ..	57	0	60	0	68	6	57	6	50	0	..	
Ham and Bacon Curing.												
Casing Cleaners (Foreman)	66	0	75	0	^{6}92	0	68	0			60	0
Curers (First Hand) ..	85	0	79	6	^{6}92	0	72	6	..		57	6
" (Assistant) ..	70	0	69	6	^{6}75	0	62	6	..		..	
Cutters Up (First Hand)	72	6	79	6	^{6}86	0	72	6	..		52	6
" (Assistant) ..	65	0	72	0	^{6}77	0	65	0	..		52	6
Ham Baggers	..		63	0	^{6}80	0	56	0	..		..	
Lardmen	60	0	63/ & 74/6		^{6}80	0	56/ & 67/6		..		52	6
Rollers and Trimmers ..	65	0	72	0	^{6}71	0	65	0	..		52	6
Scalders	60	0	72	0	^{6}82	6	65	0	..		52	6
Shavers	60	0	72	0	^{6}71	0	65	0	70	0	52	6
Slaughtermen	100	0	79	6	^{6}96	0	72	6	80	0	55	0
" (Assistant)	..		72	0	^{6}72	0	65	0	60	0	52	6
Smallgoodsmen (First Hand)	72	6	79	6	^{6}92	0	72	6	..		57	6
Smallgoodsmen (Assistant)	60	0	67	0	^{6}71	0	60	0	..		52	6
Smokers (First Hand) ..	65	0	74	6	^{6}86	0	67	6	..		52	6
" (Assistant) ..	60	0	63	0	^{6}71	0	56	0	..		..	
Washers (First Hand) ..	65	0	..		^{6}73	9	56	0	..		52	6
" (Assistant) ..	60	0	63	0	^{6}71	0	..		..		..	
Jam Making and Preserving.												
Adult Males	61	0	61	0	60	0	54	0	70	0*	48	0
Solderers	63	0	61	0	66	0	55	0	67	6*	51	0
Malting.												
Maltsters	65	0	66	0	63	0	66	0	60	0	56	0
Meat Packing.												
Cappers	70	0	65	0	58	0	..		..		..	
Fillers and Podgers ..	60	6	65	0	52	6	..		..		..	
Guillotine Hands ..	60	6	65	0	58	0	..		..		..	
Jokermen	70	0	65	0	61	0	..		..		..	
Lacquerers	70	0	65	0	52	6	..		..		..	
Margarine Makers ..	60/ & 65/		78	0	..		..		..		..	
Packers	60	6	65	0	52	6	..		..		..	
Seamers	70	0	65	0	65	0	..		..		..	
Milk Delivery.												
Carters (One Horse) ..	^{19}62	0	^{18}61	0	^{25}57	6	^{17}61	0	^{22}60	0	^{18}61	0
" (Two Horses) ..	^{19}61	0	^{18}66	0	..		^{17}64	0	..		^{18}66	0
Milling (Condiments).												
Grinders	71	6	66	0	^{10}60	0	66	0	..		..	
Mixers or Blenders ..	64	6	66	0	^{10}60	0	66	0	..		..	
Other Adults	64	6	57	6	^{10}60	0	57	6	..		..	
Stone Dressers	72	0	63	0	^{10}60	0	63	0	..		..	
Milling (Flour).												
Engine Drivers	69/ & 72/		69/ & 72/		72/ to 88/		69/ & 72/		69/ to 75/		69	0
Firemen	63/ to 67/		63	0	70	0	63	0	63	0	..	
Millers (Head)	83	6	79	0	83	6	79	0	79	0	77	6
" (Shift)	74/6to82/6		69/ to 78/		74/6 to 82/6		69/ to 78/		69/ to 78/		67	6
Millwrights	77	6	75	0	..		75	0	75	0	72	0
Packermen	62	0	62	0	63	0	62	0	62	0	60	0
Purifiermen	62	6	61	0	63	0	61	0	61	0	60	0
Silksmen	62	6	61	0	63	0	61	0	61	0	60	0
Smuttermen	62	0	62	0	65	0	62	0	62	0	..	
Storemen (Head) ..	65/ & 66/6		65	0	68	0	65	0	65	0	65	0
Topmen	62	6	61	0	63	0	61	0	61	0	60	0
Truckers and others ..	61	0	60	0	..		60	0	60	0	60	0
Wheat Carriers	84	0†	84	0†	84	0†	72	0†	72	0†	84	0†
Milling (Oatmeal).												
Kilnmen	67	0	60	0	^{10}60	0	60	0	..		60	0
Millers (Head)	77	6	66	0	^{10}64/ to 79/		66	0	..		77	6

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* Ruling or predominant rates, see note at top of page 246. † Computed on the hourly rate for 48 hours.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP III.—FOOD, DRINK, TOBACCO, ETC.—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Milling (Rice).						
Dryingroom Hands ..	70 6	57 6	^{10}60 0	57 6	..	..
Millers (Head)	77 6	66 0	^{10}64/ to 79/	66 0	..	..
Other Adults	64 6	57 6	^{10}60 0	57 6	..	..
Stonedressers	72 0	63 0	^{10}60 0	63 0	..	..
Pastrycooking.						
Carters	^{26}57 6	^{17}61 0	^{19}61 0	^{17}61 0	..	^{17}61 0
Packers	57 6	48 0	..	..	..	..
Pastrycooks	66 0	69 0	75 0	67 6	61/6 & 69/	60 0
" (Assistant)	^{18}55 6	63 0	67 6	..	..	50 0
Poulterers.						
Bench Hands (1st Rate)	65 0	57 6	..	..	..	..
" (2nd Rate)	60 0	50 0	..	..	..	..
Foremen	72 6	65 0	..	..	..	..
Tea Packing.						
Foremen	66/6 to 91/*	67 6	^{10}64/ to 79/	..	..	..
Headmen	63 0*	61 6	^{10}64/ to 79/	78 0	..	..
Other Adults	..	56 0	^{10}60 0	65 0	..	..
Tobacco Working (Cigars).						
Sorting and Packing ..	†	54 0	..	..	..	..

GROUP IV.—CLOTHING, HATS, BOOTS, ETC.

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Bootmaking.						
Bootmakers	72 0	72 0	72 0	72 0	72 0	72 0
Dyeing and Cleaning.						
Clothes Cleaners ..	60/ to 65/*	58 0	..	60 0*	§55/ &63/6*	60 0*
Dyers (Black)	80 0*	75 0	..	65 0*	§80/ & 85/*	..
" (Colour)	80 0*	75 0	..	65 0*	§80/ & 85/*	..
Dye-house Labourers ..	50 0*	57 0	..	..	§54/ &63/6*	..
Hatmaking (Straw).						
Bleachers	..	58 6	..	..	..	..
Blockers	^{10}55 7	64 6	^{12}a55 0*	^{10}60/ to 65/*	..	..
Foremen	^{10}60 0	71 6	^{12}a60 0*	^{10}70 0*	..	..
Stiffeners	^{10}55 7	64 6	^{12}a55 0*	^{10}60/ to 65/*	..	..
Tailoring (Order).						
Cutters	82 6	75 0	80 0	75 0	70 0	70/ & 75/*
Pressers	64 0	60 0	65 0	60 0	60 0	60 0
Tailors	65 0	65 0	65 0	65 0	70 0	65/ & 70/
Trimmers	72 6	57 6	65 0	57 6	..	60 0
Tailoring (Ready-made).						
Brushers	54 0	52 0	^{12}60 0	55 0	..	50 0
Cutters	72 6	65 0	^{12}65 0	65 0	65 0	65 0
Folders	54 0	52 0	^{12}60 0	55 0	..	50 0
Machinists	..	60 0	^{12}60 0	60 0	..	60 0
Pressers (Coat Hands) ..	64 0	60 0	^{12}65 0	57/6 & 60/	60 0	55/ & 57/6
" (Trouser and Vest Hands)..	64 0	60 0	^{12}65 0	57/6 & 60/	60 0	55/ & 57/6
Tailors	67 6	65 0	^{12}65 0	62 6	70 0	65 0
Trimmers	72 6	57 6	^{12}65 0	56 0	60 0	57 0
Under Pressers (Coat Hands)	54 0	52 0	^{12}60 0	55 0	58 6	55 0
" (Trouser and Vest Hands)	54 0	50 0	^{12}60 0	55 0	58 6	55 0
Textile Working (Woollen Mills).‡						
Carders	60 0	63 0	60 0	55/ to 60/*	..	37 6
Dyehousemen	60 0	63 0	60 0	54 0*	..	47 6
Labourers (General) ..	60 0	63 0	60 0	54 0*	..	42 6
" (Willyhouse)	60 0	63 0	60 0	54 0*	..	42 6
Milling Hands	60 0	63 0	60 0	54/ to 65/*	..	..
Other Adults	60 0	63 0	60 0	54 0*	..	42 6
Pattern Weavers.. ..	60 0	63 0	..	54/ & 58/*	..	..

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* Ruling or predominant rates, see note at top of page 246. † Piece-work rates. ‡ Melbourne rates from 6/1/19. § 44 and 48 hours per week.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP IV.—CLOTHING, HATS, BOOTS, ETC.—*continued.*

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Textile Working (Woollen Mills)—cont.												
Scourers	60	0	66	0	63	0	54/ to 65/*		..		42	0
Spinners	60	0	69	0	70	0	57/ to 65/*		..		45	0
Tuners	60/ to 71/		65/ to 73/		60/ & 65/		55/ to 65/*		..		55	0
Twisters in	60	0	63	0	..		54	0*	..		45	0
Warpers	60	0	64	0	..		55	0*	..		52	6
Tiemaking.												
Cutters (Lining)	..		40	0	..		..		..		..	
,, (Silk)	60	0*	47	6	..		..		..		..	
Waterproof Clothing.												
Cutters (Rubber Material)	75/& 77/6*		65	0	..		..		..		..	
,, (Other)	..		60	0	..		..		..		..	
Garment Makers	..		60	0	..		..		..		..	

GROUP V.—BOOKS, PRINTING, BINDING, ETC.

Bookbinding.												
Feeders	..		57	6	60	0	54	0	..		50	0
Finishers	70	0	76	0	72	0	68	0	70	0	70	0
Journeymen Bookbinders	70	0	76	0	72	0	68	0	70	0	70	0
Marblers	70	0	76	0	72	0	68	0	70	0	70	0
Paper Rulers	70/ to 82/6		76	0	72	0	68	0	70	0	70	0
Engraving (Process).‡												
Engravers	[6]73	6	[6]65	0	..		..		..		..	
Etchers (Half-tone)	[6]78	6	[6]70	0	..		[6]75	0*	..		..	
,, (Line)	[6]73	6	[6]65	0	[5]a65/to70/*		[6]65	0*	..		..	
Mounters	[6]66	0	[6]50	0	[5]a65	0*	..		..		..	
Operators	[6]78	6	[6]65	0	[5]a70	0*	..		..		..	
Printers	[6]73	6	[6]55	0	[5]a60	0*	[6]62	6*	..		..	
Routers	[6]66	0	[6]60	0	..		..		..		..	
Lithographing.												
Printers	70	0	78	0	77	0	68	0	..		70	0
Rotary Machinists	75	0	80/ & 82/		77	0	68	0	80	0*	80	0
Stone Polishers	70	0	61	0	60	0	54	0	..		70	0
Printing (Daily Newspapers).												
Compositors (Day Work)	[6]90	0	98	0	[6]84	4	84	0	[8]80	0	70	0
,, (Night Work)	[5]100	0	108	0	[6]91	8	88	0	[8]90	0	[5]75	3
Linotype Attendants—												
Day Work	70	0	[10]60	4	[6]65	0	63	0	[8]60	0*	66/ & 70/	
Night Work	80	0	[6]64	2	[6]70	0	78	0	[6]65	0*	[6]66/ & 70/	
,, Operators–Day Work	†		†		[6]95	4	†		[5]90	0	†	
Night Work	†		†		[6]102	8	†		[5]100	0	†	
Machinists (First Hand)—												
Day Work	[6]90	0	[10]84	4	[8]95	0	80	0	65	0	..	
Night Work	[5]100	0	[6]91	8	[6]100	0	86	0	[6]65	0	[5]70	0
Publishers	[6.5]70/ &75/		[8]65/2 to73/4		[6]60/ to 75/		63	0	[12]60/ & 65/		[8]70	0
Readers—Day Work	[6]95	0	92	6	[6]67/6 & 82/6		83	0	[8]80	0	70	0
Night Work	[5]110	0	97	6	[6]72/6 & 87/6		87	0	[6]90	0	[8]75	3
Readers' Assistants—												
Day Work	[6]65	0	60	0	[6]60	0	54	0	[8]60	0	..	
Night Work	[5]75	0	67	6	[6]65	0	58	0	[8]65	0	[6]60	0
Stereotypers (1st Class)—												
Day Work	[6]82	6	[10]78	7	[6]72/6 & 82/6		66	0	[12]70	0	..	
Night Work	[5]87	6	[6]86	2	[6]77/6 & 87/6		70	6	[8]75	0	[5]70	0
Stereotypers' Assistants—												
Day Work	[6]75	0	[10]67	1	[6]62	6	54	0	[12]60	0	..	
Night Work	[5]80	0	[6]75	2	[6]67	6	58	0	[6]63	0	[5]55	0
Printing (Jobbing Offices).												
Compositors	73	6	78	0	72	0	68	0	70	0	70	0
Electrotypers	74	0	78	0	64	0	72	0*	..		70	0
General Hands	..		57	6	60	0	54	0	[8]60	0*	50	0
Linotype Operators	[8]75	0	[5]85	9	77/ & 85/4		[8]75	0	[5]90	0*	81	0
Machinists	56/ & 70/		78	0	60/ & 72/		68	0	70	0	70	0
Monoline Operators	[8]71	3	[5]85	9	77/ & 85/4		[8]75	0	[5]90	0*	81	0
Monotype Operators	[8]63	9	[6]85	9	72/ & 78/		[8]75	0	[6]90	0*	†	
,, Casting Machinists	..		[5]57	6	60	0	58	0	..		..	
Readers	65	0	82	0	72	0	68	0	[8]80	0*	70	0
Stereotypers	67	6	78	0	60/ & 72/		68	0	70	0	70	0
Typograph Operators	[8]75	0	[5]85	9	77/ & 85/4		[8]75	0	65	0*	..	

* Ruling or predominant rates, see note at top of page 246. † Piece-work rates. ‡ Other than in newspaper offices.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP VI.—OTHER MANUFACTURES.

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Asphalting.						
Layers (Cold Work) ..	66 0	60 6	..	63/ to 67/6*	..	^{6}48/to 66/*
,, (Hot Work) ..	66 0	66 0	..	..	..	^{6}48/to 66/*
Mastic Boilers	..	^{22}80 0	..	..	..	..
Potmen	66 0	55 0	..	..	..	^{6}48/to 66/*
Rubbers Down	..	60 6	..	..	..	..
Yardmen and Labourers	64 0	55 0	..	63 0*	..	^{6}48/to 66/*
Boatbuilding.						
Boatbuilders	80/ & 84/	70/ to 80/*	^{12}70 6* to 76 4	84 0*	90 0	80 0*
Brickmaking.‡						
Burners	72/ & 73/6	^{22}82 6	65/ to 71/	^{22}82 6	^{18}74 8	55 6
Carters (One Horse) ..	^{27b}60 0	^{17}61 0	^{19}61 0	^{17}61 0	54 0	^{17}61 0
,, (Two Horses) ..	^{27b}65 0	^{17}66 0	^{19}66 0	^{17}64 0	60 0	^{17}66 0
Clayholemen	72 6	65 0	67 0	68 0	64 0	49 6
Drawers	74 0	72 0	67 0	74 0	†	55 6
Labourers	68 6	61 0	65 0	63 0	60 0	49 6
Loaders Out	68 6	..	65 0	..	..	55 6
Loftsmen	65 6	61 0	65 0	63 0	56 0	54 0
Machinemen	70 6	^{18}66 11½	67 0	66/ & 69/	62/ & 66/	54 0
Panmen	68 6	^{18}66 11½	65 0	^{18}70 1½ & 73 3¾	62 0	54 0
Pit Foremen	79 0	80 0*	71 0	73 0	70 0	..
,, Men	72 6	66 0	67 0	68 0	64 0	54 0
,, Shooters	75 6	70 0	71 0	73 0	70 0	57 0
Setters	74 0	70 0	65/ & 67/	74 0	66/ & 68/	54/ & 60/
Truckers	68 6	61 0	65 0	63 0	60 0	54 0
Wheelers	68 6	61 0	65/ & 67/	63 0	64 0	54 0
Yardmen	68 6	61 0	65 0	63 0	60 0	55 6
Broom-making (Millet).						
Sorters (Head) ..	66 9	80 0	67 6	..	..	70 0*
,, (Other)	57/9 & 61/	68 6	67 6	..	..	50 0*
Varnishers, Ringers and Sizers per (1000)	2 10	3 0	..	..	..	..
Brushmaking.‖						
Bass Broom Drawers ..	66 0	63 0	65 0	52 6	..	..
Finishers	66 0	60 0		60 0	..	..
Machinists (Boring) ..	66 0	60 0		60 0	..	..
,, (Boults Carver)	75 0	74 0		64 0	..	..
Paint Brush Makers ..	70 0	77 6		67 6	..	..
Pan Workers (Hair & Bass)	66 0	72 0		55/ & 60/	..	..
Candle Making.						
Acidifiers	62 0	63 0	67 0	63 0	..	.
General Hands	60 0	57 6	63 0	57 6	60 0*	..
Glycerine Distillers ..	64 6	63 0	63 0	63 0	..	..
Moulders	60 0	61 6	67 0	61 6	60/ to 65/*	61 0*
Press-room Gangers ..	62 0	60 6	64 0	63 6	..	..
Stillmen	65 0	63 0	67 0	63 0	..	..
Cardboard Box Makers.§						
Guillotine and other Cutters	67/6 & 70/	71 0	62/6 to 66/*	68 0	..	..
Other Adults	60 0	57 6	62/6 to 66/*	..	..	..
Coachmaking (Road).¶						
Bodymakers	67 6	72 0	^{6}73 4	66 0	69 0	60 0
Labourers	55 6	58 0	^{6}58 8	54 0	..	..
Painters	67 6	72 0	^{6}73 4	66 0	69 0	60 0
,, Labourers ..	56 6	58 0	^{6}66 0	54 0	59 6*	..
Smiths	67 6	72 0	^{6}73 4	66 0	69 0	60 0
,, Strikers ..	55 6	58 0	^{6}58 8	57 0	57 0	..
Trimmers	67 6	72 0	^{6}73 4	66 0	69 0	60 0
Vycemen	58 6	63 0	..	54 0	60 0*	45 0
Wheelmaking Machinists	67 6	72 0	^{6}73 4	66 0	69 0	65 0*
Wheelwrights	67 6	72 0	^{6}73 4	66 0	69 0	60 0
Coachmaking (Axlemaking).¶						
Centre Turners	67 6	58 0	..	66 0	..	..
Faceplate Workers ..	67 6	66 0	..	66 0	..	..

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* Ruling or predominant rates, see note at top of page 246. † Piece-work rates. ‡ Adelaide rates from 2/1/19. ‖ Melbourne rates from 1/1/19. § Sydney rates from 3/1/19. ¶ Melbourne rates from 11/1/19.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP VI.—OTHER MANUFACTURES—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Coachmaking(Springmaking)†						
Fitters	67 6	72 0	..	66 0	..	..
Spring Makers	67 6	70 0	..	66 0	..	..
Fellmongering.						
Bate Hands	68 0	63 0	68 6	57/* & 65/	..	..
Green Hands	66 0	63 0	65 6	65 0	..	..
Labourers	62 0	63 0	64 0	57/* & 65/	..	..
Limepit Men	68 0	63 0	68/6 & 71/6	65 0	..	..
Machinists (Burring)	68 0	68 0	74 6	65 0	..	..
„ (Fleshing)	68 0	68 0	71 6	60/* & 65/	..	..
„ (Scouring)	66 0	68 0	65 6	65/ & 65/*	..	..
„ (Setting Out)	68 0	68 0	71 6	57/* & 65/	..	..
Soakholemen	68 0	63 0	71 6	57/* & 65/	..	..
Sweathouse Men	68 0	63 0	71 6	65 0	..	..
Wool Sorters	70 0	70 0	71 6	65 0	..	..
Fibrous-Plaster Working.						
Fixers' Assistants	66 0	^{6}54 1	..	..	..	..
Other Adults	66 0	^{6}54 0	..	..	..	..
Shop Hands	84 0	^{6}66 0	..	..	..	..
Gas Making and Supply.						
Blacksmiths	87 6	78 0	^{6}82 6	76 6	82 0*	76 6
Coke Trimmers	67 6	66 0	^{6}58 8	64 6	65 0	64 6
Engine Drivers	68/6to76/6	75 0	72/ to 88/	78 7	72 0*	73 6
Gas Fitters	72 0	81 0	^{6}75 2	79 6	78 0	79 6
Labourers	61 6	63/ & 66/	^{6}58 8	61/6& 64/6	60 0	61/6 & 64/6
Mainlayers	76/6 & 84/	75 0	^{6}63/3&67/10	73 6	72 0	73 6
Metermakers	75 0	72/ & 81/	^{6}71 6	79 6	72 0	79 6
Meter Testers	63/ & 69/	69 0	..	..	..	..
Service Layers	67 6	75 0	^{6}63 3	73 6	69 0	73 6
„ (Labourers)	61 6	66 0	^{6}58 8	64 6	60 0	64 6
Stokers	73 6	75/ & 76/6	^{26}87 6	78/7to81/10	69/ & 76/6	73/6 & 75/
Yardmen	61 6	63 0	^{6}58 8	61 6	57 0	61 6
Glassfounding.						
Bottlestoppers	63 0	63 0	63 0*	63 0	..	..
Furnacemen	^{28}87 0	^{28}87 0	^{28}87 0*	^{28}87 0	^{25}75 0	..
„ (Assistants)	^{28}76 0	^{28}76 0	^{28}76 0*	^{28}76 0	..	..
Labourers	63 0	63 0	63 0*	63 0	60 0*	..
Lehrmen	^{12}a63 0	^{12}a63 0	^{12}a63 0*	^{12}a 63 0	..	..
Packers	63 0	63 0	63 0*	63 0	60 0*	..
Sorters	63 0	63 0	63 0*	63 0	60 0*	..
Glassworking and Glazing. ‡						
Bevellers	80/6 &81/6	70 0	70 0*	68/ & 70/*	..	60 0
Cementers	60 0	55 0	..	55 0*	..	..
Cutters & Glaziers (Other)	79 6	60 0	^{6}71 6	65 0*	..	..
„ „ (Plate)	79 6	70 0	^{6}71 6	70 0*	..	..
Lead Light Glaziers	80 6	60 0	..	70 0*	..	..
Packers	60 0*	60 0	..	65 0*	..	..
Silverers(using Own Recipe)	83 6	..	..	73 0*	..	..
„ (Others)	83 6	70 0	70 0*	60/ & 68/*	..	..
Horsehair Working.						
Curlers	63 0*	69 0	..	..	..	..
Drafting Hands	63 0*	69 0	..	..	..	..
Wet Hacklers and Others	58/ & 60/*	61/6 to 69/	..	..	..	..
Jewellery, Clock and Watch Making.						
Chainmakers	73/6 & 76/	63 0	75 0	§63/ & 67/6	70 0*	50/ to 70/*
Engravers	76 0	^{11}75 0	75/ & 77/6	§70 0	70 0*	50/ to 70/*
Mounters	73 6	70 0	75 0	§75 0	70 0*	50/ to 70/*
Setters	76 0	70 0	77 6	§75 0	70 0*	50/ to 70/*
Watch and Clock Makers	^{11}75 0	^{11}75 0	^{6}80 0	§72 6	70 0*	..
„ „ Repairers	^{11}75 0	^{11}75 0	^{6}80 0	§72 6	70 0*	70/ to 80/*
Leather (Small Goods).						
General Hands	66 0	66 0	78 0	66 0	66 0	66 0
Manures (Animal). ‖						
Fertiliser Hands	66 6	54 0	56 6	..	..	..

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* Ruling or predominant rates, see note at top of page 246. † Melbourne rates from 11/1/19. ‡ Sydney rates from 7/1/19. ‖ Sydney rates from 3/1/19. § Hours of labour per week; 48 (daylight), 45 (artificial light).

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

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GROUP VI.—OTHER MANUFACTURES—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Manures (Artificial).	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Acid Retortmen	61 0	63 0	..	63 0	63 0	..
Bagging Men	58 0	60 0	..	60 0	60 0	..
Bin Workers	64 0	60 0	..	60 0	60 0	..
Bone Mill Feeders ..	..	60 0	..	60 0	60 0	..
Chamber Burners ..	66 0	63 0	.	63 0	63 0	..
Crushers and Mixers ..	60/ to 66/	63 0	..	63 0	63 0	..
Labourers .. .	60 0	60 0	..	60 0	60 0	..
Masonry (Marble and Stone).						
Carvers	^{6}110 0	^{6}99 0	^{6}80 8	84 0	78 0*	..
Machinists (Carborundum)	70 0	68 0	^{6}80 8	64 0	70 0*	..
,, (Other) ..	..	74 0	^{6}80 8	64 0	70 0*	..
Masons	^{6}77 11 to 81 7	^{6}71 6	^{6}80 8	68 0	78 0*	72 0
Polishers (Machine-Granite)	70 0	68 0	^{6}80 8	54 0	78 0*	..
,, (,, Marble)	70 0	66 0	^{6}80 8	54 0	78 0*	..
,, (Other Granite)	70 0	^{6}62 4	^{6}80 8	54 0	78 0*	..
,, (,, Marble)	70 0	^{6}60 6	^{6}80 8	54 0	78 0*	..
Masonry, Monumental Workers						
Carvers	^{6}88 11	^{6}84 4	^{6}79 9	84 0	78 0*	72 0
Fixers	81 0	64 0	^{6}79 9	64 0	72 0*	72 0
Labourers	60 0	64 0	^{6}64 2	54 0	66 0*	60 0
Letter Cutters	^{6}78 10	^{6}77 0	^{6}79 9	74 0	78 0*	72 0
Masons	^{6}77 0	^{6}66/ & 77/	^{6}79 9	68 0	78 0*	72 0
Opticians.						
Journeymen	^{11}73 0	^{11}72 0	^{10}75 0	67/6 to 80/	..	..
Paper Bag Making.						
Guillotine Cutters ..	70 0	57 6	68 0	68 0	..	..
Machinists	..	57/6 & 63/6	68 0	70 0*	..	..
Paper Making.						
Beatermen	76 0	78 0	..	..	..	..
,, (Assistant) ..	58 0	57 0	..	..	..	..
Breakermen	57 6	63 0	..	..	..	..
Cutters	58 0	60/ & 63/	..	..	..	..
Guillotine Men	58 0	60 0	..	..	..	..
Machinists	76 0	81 0	..	..	..	..
,, (Assistant) ..	55 0	57 0	..	..	..	..
Packers	57 6	57 0	..	..	..	..
Ragboilermen	60 0	60 0	..	..	..	..
Rippers	57 6	60 0	..	..	..	..
Other Adults	55 0	57 0	..	..	..	..
Polish Making.						
Foremen	..	60 0	..	..	..	..
Grinders	..	60 0	..	60 0	..	..
Millhands	..	60 0	..	..	..	..
Mixers	..	60 0	..	60 0	..	..
Other Adults	..	57 6	..	57 6	..	..
Portmanteaux Making.						
Journeymen	66 0	66 0	66 0	66 0	66 0	66 0
Potteries (General).						
Burners (Head) ..	70 0	^{33}80 0	60 0	60 0*	..	52 6
,, (Assistant) ..	65 0	^{33}76 3	60 0	55 0*	..	49 6
Hollow-ware Pressers ..	79 0	61 0	60 0		..	55 6
Labourers	65 0	60 0	60 0	51/ & 55/*	..	49 6
Sagger Makers	67 6	60 0	..	51/ & 55/*	..	..
Sanitary Pressers ..	80 0	64 0	60 0	..	..	55 6
Throwers (1st Class) ..	80 0	70 0	76 0	68 0*	..	58 6
,, (2nd Class) ..	..	60/ & 64/	68 0	..	..	49 6
Turners	72 0	61 0	..	..	..	..
Potteries (Pipemaking).						
Burners (Head)	69 0	^{33}80 0	66 0	66 0*	66 0*	58 6
,, (Assistant) ..	..	^{33}76 3	60 0	..	60 0*	49 6
Drawers	64 0	60 0	60 0	66 0*	66 0*	..
Junction Stickers ..	66 0	62 0	60 0	..	66 0*	52 6
Moulders	70 0	63 6	60 0	..	75 0*	54 0
Mould Makers	64 0	70 0	62 0	66 0*	75 0*	..
Setters	68 0	63 0	60 0	..	66 0*	52 6

* Ruling or predominant rates, see note at top of page 246.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

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GROUP VI.—OTHER MANUFACTURES—*continued.*

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
Potteries—Tile Making, (other than Roofing).	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Labourers	65	0	60	0	60	0	..		..		49	6
Moulders or Pressers	66	0	63	6	60	0	..		..		..	
Setters (Head)	71	0	63	6	60	0	..		..		..	
,, (Other)	66	0	63	6	60	0	..		..		..	
Quarrying.†												
Borers (Hand or Machine)	^{6}73	4	72	0	72	0	75	0	66	0	66	0
,, (Assistant)	67	6	63	0	65	6	66	0	..		60	0
Dressers	^{6}84	4	80	0	65	6	..		..		63	0
Facemen	78	6	72	0	72	0	..		..		57	0
Gutterers	^{6}89	10	..		76	0	..		..		63	0
Hammermen	74	6	80	0	72	0	67	6	60	0	63	0
Labourers or Strippers	67	6	63	0	65	6	66	0	54	0	57	0
Loaders, Pluggers or Truckers	67	6	63	0	65	6	66	0	54/ & 60/		57	0
Machine Feeders	78	6	63	0	71	6	64	6	60	0	60	0
Quarrymen	^{6}84	4	..		76	0	66	0	60/ & 66/		^{6}66	0
Spallers	71	6	72	0	70	0	67	6	60	0	63	0
Rope Making.												
Clothes Line Lappers	60	0	54	0	42	0	..		..		..	
Feeders for First Spreader	63	0	57	0	42	0	63	0	..		..	
Foremen (Head)	72/ & 75/		62/6 to 67/6		60	0	73/ & 78/		..		..	
,, (Jenny)	72	0	62	6	48	0	68	0	..		..	
KnockersOut and Dampers Down	60	0	54	0	42	0	60	0	..		..	
Oilers	60	0	57	0	..		57	0	..		..	
Packers	63	0	54	0	42	0	57	0	..		..	
Reelers (Hand)	60	0	55	0	42	0	60/ & 63/		..		..	
,, (Steam)	60/ & 63/		58	0	..		70	0	..		..	
Rubber Working.												
Calender Hands	75	0	71	6	..		..		..		..	
Compound Weighers	63	0	62	6	..		..		..		..	
Cycle Tyre Makers	60	0	62	6	..		..		..		..	
Dough Mixers	63	0	62	6	..		..		..		..	
Forcing Machinists	63	0	60	0	..		..		..		..	
Heaters	63	0	61	6	..		..		..		..	
Hosemakers	63	0	62	6	..		..		..		..	
Mechanical Lathe Hands	63	0	62	6	..		..		..		..	
Mill Hands	66	0	65	6	..		..		..		..	
Moulders (Other)	63	0	61	6	..		..		..		..	
Other Adults	60	0	57	6	..		..		..		..	
Press Hands	63	0	61	6	..		..		..		..	
Spreaders	63	0	62	6	..		..		..		..	
Surgical, Packing and other Makers	63	0	62	6	..		..		..		..	
Textile Cutters	60	0	60	0	..		..		..		..	
Tube Repairers	63	0	62	6	..		55/ to 62/6*		..		..	
,, Joiners	60	0	59	0	..		55/ to 62/6*		..		..	
Tyre Moulders	66	0	71	6	..		..		..		..	
Vulcanisers	63	0	57	6	..		55/ to 62/6*		..		..	
Wrappers	60	0	59	0	..		55/ to 62/6*		..		..	
Saddlery and Harnessmaking.												
Collarmakers	66	0	66	0	78	0	66	0	65	0	66	0
Harnessmakers	66	0	66	0	78	0	66	0	60	0	66	0
Machinists	66	0	66	0	78	0	66	0	60	0	66	0
Saddlers	66	0	66	0	78	0	66	0	60	0	66	0
Sail Making.												
Sailmakers	78	0	66	0	63	0	66	0	^{12}60/to 70/*		..	
Ship Workers.												
Carpenters and Joiners	80	0	^{6}73	4	^{6}66	0	84	0*	..		80	0*
Dockers	^{6}73	4	^{6}73	4	^{6}73	4	..		..		..	
Painters	^{6}73/4 &79/9		^{6}73	4	^{6}73	4	52	0	..		..	
Shipwrights (New Work)	80	0	^{6}82	6	^{6}82	6	84	0	90	0	80	0*
,, (Old Work)	84	0	^{6}82	6	^{6}82	6	84	0	90	0	80	0*
Soap Making.												
Foremen	67	0	64	6	68	0	64	6	..		..	
General Hands	60	0	57	6	63	0	57	6	60	0*	62	6*
Mixers	60	0	62	6	63	0	62	6	60	0*	..	
Soap Makers	72	0	67	0	63	0	67	0	60	0*	..	
,, (Assistant)	62	0	66	6	63	0	66	6	..		..	
Tallow Making.‡												
Tallowmen	71	6	60	0	60	0	66	0*	70	0	^{8}52	6

* Ruling or predominant rates, see note at top of page 246. † Sydney rates from 7/1/19.
‡ Sydney rates from 3/1/19.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP VI.—OTHER MANUFACTURES—*continued.*

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Tanning and Currying.												
Beamsmen	70	6	70	6	70	6	70	6	70	6	70	6
Curriers	75	6	75	6	75	6	75	6	75	6	75	6
Fancy Leather Finishers	65	6	65	6	65	6	65	6	65	6	65	6
Japanners or Enamellers	65	6	65	6	65	6	65	6	65	6	65	6
Jiggers and Grainers (Bookbinding Leather)	68	6	68	6	68	6	68	6	68	6	68	6
Labourers	61	6	61	6	61	6	61	6	61	6	61	6
Limemen and Yardmen	62	6	62	6	62	6	62	6	62	6	62	6
Machinists (Fleshing) ..	70	6	70	6	70	6	70	6	70	6	70	6
,, (Scouring) ..	63	6	63	6	63	6	63	6	63	6	63	6
,, (Scudding) ..	65	6	65	6	65	6	65	6	65	6	65	6
,, (Shaving) ..	68	6	68	6	68	6	68	6	68	6	68	6
,, (Splitting) ..	75	6	75	6	75	6	75	6	75	6	75	6
,, (Unhairing)	65	6	65	6	65	6	65	6	65	6	65	6
,, (Whitening)	68	6	68	6	68	6	68	6	68	6	68	6
,, (Other) ..	63	6	63	6	63	6	63	6	63	6	63	6
Rollers and Strikers ..	67	6	67	6	67	6	67	6	67	6	67	6
Tablemen	65	6	65	6	65	6	65	6	65	6	65	6
Tent and Tarpaulin Making.												
Cutters (1st Hand) ..	60	0	72	0	67	6	66	0	^{12}60	0*	^{12}*a*70	0*
,, (2nd Hand) ..	50	0	54	0	67	6	..		^{12}60	0*	^{12}*a*55	0*
Dressers	54	0	54	0	..		..		..		..	
Machinists	52	6	54	0	63	0	66	0	..		..	
Sewers (Hand)	60	0	66	0	63	0	66	0	^{12}60	0*	..	
Tent Makers	60	0	66	0	63	0	66	0	^{12}60	0*	..	
Wickerworking.												
Bamboo or Wickerworkers	66	0	67	6	^{6}69	8	60	0	67	0	60	0
Basket Makers & Repairers	69/ & 72/		65	0	^{6}69	8	60	0	..		..	
Upholsterers	79	0	67	6	^{6}69	8	60	0	..		..	

GROUP VII.—BUILDING.

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
Bricklaying.												
Bricklayers (Surface) ..	84	0	^{6}82	6	^{6}85	3	^{6}77	0	90	0*	76	0
,, (Sewer and Tunnel) ..	90	0	^{6}88	0	^{6}85	3	^{6}77	0	90	0*	84	0
Carpentering.												
Carpenters	80	0	^{6}80	8	^{6}82	6	^{6}71	6	76	6	72	0
Joinery.												
Machinists (1st Class) ..	74	0	73	0	^{6}82	6	71	6	..		72	0
,, (2nd Class)	69	0	71	0	^{6}73	4	64	0	..		63	0
,, (3rd Class)	62	6	64	0	^{6}73	4	62	6	..		60	0
Labouring (Builders).†												
Bricklayers' Labourers ..	72	0	^{6}66	0	^{6}64	2	^{6}66	0	72	0*	^{6}66	0
Carpenters' Labourers ..	68	0	^{6}66	0	^{6}64	2	^{6}66	0	66	0*	^{6}66	0
Concrete Workers ..	68	0	^{6}66	0	^{6}64	2	^{6}66	0	66	0*	^{6}66	0
Earth Excavators ..	68	0	^{6}66	0	^{6}64	2	^{6}66	0	66	0*	^{6}66	0
Gear Workers	68	0	^{6}66	0	^{6}64	2	^{6}66	0	72	0*	^{6}66	0
Masons' Labourers ..	68	0	^{6}66	0	^{6}64	2	^{6}66	0	72	0*	^{6}66	0
Plasterers' Labourers ..	68	0	^{6}66	0	^{6}64	2	^{6}66	0	72	0*	^{6}66	0
Scaffold Hands	68	0	^{6}66	0	^{6}64	2	^{6}66	0	78	0*	^{6}66	0
Lathing and Ceiling.												
Lathers	78	0*	^{6}75	2*	^{6}79	9*	^{6}73	4*	84	0*	68	0*
Metal Ceilers	68	0	^{6}74	0*	^{6}79	9*	..		..		50	0*
Masonry.												
Masons	^{6}77/11-81/7		^{6}71	6*	^{6}80	8	^{6}77	0	84	0*	^{6}72	0
Painting (House) and Glazing.												
Glaziers	79	6	^{6}73	4	^{6}74	3	^{6}66	0	72	0	66	0
Painters	79	6	^{6}73	4	^{6}74	3	^{6}66	0	72	0	66	0
Paperhangers	79	6	^{6}73	4	^{6}74	3	^{6}66	0	72	0	66	0
Signwriters	87	6	^{6}73	4	^{6}74	3	^{6}66	0	72	0	66	0

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* Ruling or predominant rates, see note at top of page 246.

† The rates of wage quoted for Builders' Labourers for Sydney are those payable under State Award. The rates quoted for Perth are the ruling or predominant rates, while those for Melbourne, Brisbane, Adelaide, and Hobart are the rates fixed by the Award of the Commonwealth Arbitration Court.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP VII.—BUILDING—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Plastering.						
Fibrous Plaster Fixers	84 0	^{6}66 0	^{6}79 9	..	..	..
Plasterers (Surface) ..	84 0	^{6}80 8 to 84 4	^{6}79 9	^{6}73 4	78 0	76 0
„ (Sewer or Tunnel)	88 0	^{6}89 10	^{4}a88/11 to 93 6	^{6}85 4	..	..
Plumbing and Gasfitting.						
Galvanised Iron Workers	80 0	^{6}80 8	^{6}75 2	76 0	78 0	63/ to 78/
Gasfitters	80 0	^{6}80 8	^{6}75 2	^{6}69 8	78 0	78 0
Plumbers	80 0	^{6}80 8	^{6}75 2	^{6}73 4	78 0	69/ to 80/
Roofing.						
Shinglers	84 0	^{6}93 6	^{6}79 9*	..	..	..
Slaters	84 0	^{6}93 6	^{6}79 9*	72 0*	72 0*	66 0*
Tilers	84 0	^{6}93 6	^{6}79 9*	72 0*	72 0*	66 0*
Tile Laying.						
Tile Layers	78 0	^{6}77 0	^{6}79 9	^{6}84 0*	..	77 0*
Tuckpointing.						
Tuckpointers	72 0	^{6}71 6	^{6}85 3	^{6}84 0*	72 0*	^{6}71 6*
Water Supply and Sewerage						
Carpenters	80 0	^{6}80 8	..	78 0*	72 0	66/ & 78/*
Concretors	69 0	72 0	^{6}71/6to78/10	57/ to 63/*	63 6	63 0*
Labourers	63 0	57 0*	66 0	54/ & 60/*	57 6	60/ & 63/*
Miners (Sewer)	$^{4\cdot6}$77/11 & 85/6	68/ & 72/	^{6}88 0	..	^{6}66 6	69 0*
Pipejointers and Setters	66/ & 70/6	68 0	^{6}66/ & 67/10	60/ to 66/*	66/6 & 81/6	69 0*
Timbermen	70/6 & 75/6	..	^{6}88 0	57/ & 63/*	66 6	66 0*
Toolsharpeners	66 0	68 0	78 0	57/ & 63/*	66 6	66 0*

GROUP VIII.—MINING.

Industry and Occupation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Coal Mining.‡						
Blacksmiths	70/ to 84/	77/4to80/6	88/ & 91/	Not Mined.	..	65/ to 79/6
Bracemen	72/ to 73/9	64/9to77/5	71/3&86/10½		..	..
Carpenters	72/ to 88/	77/4to82/9	82/ & 83/		..	65 0
Deputies	84/ to 99/	92/10 to 104/6	91/ & 94/4½		..	83/ & 84/
Engine Drivers (Winding and Loco.)	76/ to 88/	75/5 to 84/	84 0		^{12}81/ & 84/	..
Do. (Other)	69/ to 80/	69/	75 10		..	69/ to 87/
Labourers (Surface) ..	65/5 to 69/	62/ to 64/9	65/4½& 71/9		73 0	60/ to 65/
„ (Underground)	65/6 to 72/	64/9	67/6& 75/7½		..	..
Miners (Machine) ..	†	†	†		†	..
„ (Manual) Dry Work	†	†	†		†	†
„ „ Wet Work	†	†	†		..	
Platmen or Banksmen	72/ to 75/6	79/ to 85/1	65/4½-79/4½		84 0	60 0
Shaftsinkers (Dry Work)	†	†	91/ & 96/4½		†	†
„ (Wet Work)	†	†	99/ & 104/3		†	†
Shiftmen (Dry Work) ..	65/6 to 93/	79/ to 85/1	83/ & 90/9		96 0	77 6
„ (Wet Work)	65/6 to 93/	86/5	91/ & 98/3		..	..
Shotfirers	78/ to 96/6	..	83 0		96 0	..
Shovellers	65/6 to 69/	64/9	..		85 0	..
Skiprepairers	65/6 to 73/	61/6to64/9	..		..	65 0
Strikers	60/ to 68/6	61/6to64/9	..		..	..
Timbermen	78/8 to 85/6	79/2 to 90/	83 0		84 0	..
Weighmen	73/2 to 80/	69/7to86/4	..		84 0	72 0
Wheelers	63/ to 75/6	72/ to 75/6	72/ & 77/4½		84/ to 91/	61 6

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* Ruling or predominant rates, see note at top of page 246. † Piece-work rates. ‡ The rates of wage quoted are those awarded by the special tribunal appointed under the War Precautions Act. The rates came into force on the 1st January, 1917. The hours of labour for coal miners in the Commonwealth were fixed by the tribunal, as follows :—Eight hours bank to bank inclusive of one half hour for meal time, on Monday, Tuesday, Wednesday, Thursday and Friday, and six hours bank to bank, inclusive of one half hour for meal time on Saturday, Sundays and holidays. The customary number of shifts per fortnight is eleven, the collieries not working on pay Saturday.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP VIII.—MINING—*continued.*

Industry and Occupation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.
Gold and Other Mining (Except Coal). ** ††	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Battery Feeders	54/ to 72/	54/ & 58/	61/5 to 84/4	..	69/ to 79/6	48/ to 60/
Bracemen	57/ to 76/6	59/ & 60/6	63/3to89/10	69/ & 78/*	72/ to 82/6	54/ to 69/
Engine Drivers (Stationary)	66/ to 81/	60/ to 75/	67/4 to 110/	79/6 &82/6*	79/6 to 93/	60/ to 78/
,, (Winding & Loco.)	78/ to 90/	72/ to 78/	78/1 to 121/	91 6*	85/6 to 96/	69/ to 84/
Firemen	60/ to 78/	57/ to 72/	67/4 to95/4	70/6 &75/*	69/ to 84/	60/ to 66/
Labourers	54/ to 72/	54/ to 59/	54/1 to 84/4	60/ & 63/*	67/6 to 78/	48/ to 69/
Miners (Dry Work) ..	60/ to 81/	68/ to 72/	73/4to89/10	†	73/6 to 87/	54/ to 78/
,, (Wet Work) ..	66/ to 87/	69/ to 78/	80/8 to 98/1	†	79/6 to 93/	60/ to 84/
,, (Machine) ..	60/ to 94/6	60/ to 74/	73/4 to 98/1	†	76/6to 91/6	63/ to 78/
Platmen	57/ to 76/6	59/ &60/6	63/3to89/10	69/ & 78/*	72/ to 82/6	54/ to 69/
Shaft Sinkers (Dry Work)	63/ to 81/	66/ to 74/	73/4 to 98/1	†	76/6to 91/6	60/ to 78/
,, ,, (Wet Work)	69/ to 87/	72/ to 80/	80/8 to 98/1	†	82/6to97/6	66/ to 84/
Shift Bosses	63/ to 88/6	64/ to 70/	90/ to 109/1	84/ & 87/*	90/ to 120/	66/ to 90/
Timbermen	63/ to 90/	64 6to 72 6	73/4 to 98/1	78/ & 93/*	78/to 93/	64/6 to 81/

GROUP IX.—RAILWAY AND TRAMWAY TRANSPORT.

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Railways.‡	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Engine Drivers (Loco.)—§						
,, (1st Class) ..	96 0	96 0	98/ to 108/	96 0	96 0	79 6
,, (2nd Class) ..	90 0	84/ to 90/	92/ to 102/	90 0	90 0	73/6to76/6
,, (3rd Class) ..	84 0	75/ to 84/	86/ to 96/	84 0	84 0	70/6 &73/6
,, (4th Class) ..	79 0	75/ to 84/	80/ to 90/	78 0	78 0	67 6
,, (5th Class) ..	74 6	..	80/ to 90/	75 0	72 0	64 6
Firemen (1st Class)§ ..	70 0	69 0	70/ to 80/	72 0	72 0	57 0
,, (2nd Class) ..	65 6	66 0	70/ to 80/	67 6	66 0	54 0
,, (3rd Class) ..	60 6	60/ & 63/	66/ to 76/	63 0	60 0	51/ & 54/
Guards (1st Class) ..	75 0	78 0	88/ to 100/	75 0	66 0	69/ & 72/
,, (2nd Class) ..	62/6 to 72/	66/ to 75/	80/ to 94/	63/ to 72/		63/ & 66/
,, (3rd Class) ..	60/ to 66/	60/ to 63/	76/ to 86/	60 0		57/ & 60/
Porters	60 0	57/ to 66/	64/ to 76/	60 0	57/6 & 63/6	48/ to 57/
Shunters (1st Class) ..	75/ to 84/	78 0	90/ to 100/	69 0	72 6	57 0
,, (2nd Class) ..	63/ to 69/	72 0	82/ to 92/	66 0	66 6	54 0
,, (3rd Class) ..	60 0	66 0	78/ to 88/	63 0	..	51 0
,, (Ordinary) ..	60 0	60/ & 63/	72/ to 82/	60 0	60 6	..
Signalmen (Special) ..	..	78 0	86/ to 89/	..	84 6	..
,, (1st Class) ..	75/ & 78/	72 0	84/ to 94/	78 0	75 6	57/ & 60/
,, (2nd Class) ..	72 0	69 0	79/ to 89/	66/ to 72/	69 6	51/ & 54/
,, (3rd Class)	69 0	66 0	73/ to 83/	60 0	63 6	..
,, (4th Class) ..	66 0	60/ & 63/	68/ to 78/	60 0	60 6	..
Tramways (Electric & Cable).‖						
Car Washers or Cleaners	60 0	60/ to 66/	64 0	60 0	57/6 & 63/6	57 0
Conductors (1st Year) ..	60 0	60/ & 63/	60/ & 63/	60 0	63 6	57 0
,, (2nd Year) ..	61 0	63/ & 66/	63/ & 66/	63 0	63 6	57 0
,, (3rd Year) ..	62 6	66/ & 69/	72/6 & 75/	66 0	63 6	57 0
Firemen (Four Fires)	67 0	72 0	70 0	66 0	67 6*	..
,, (Less than 4 fires)	62/6 to 67/	69 0	70 0	..	64 6*	..
Horse Drivers	60 0	63/ & 66/	63 0	64 0	[25]63 6	57 0
Labourers	60 0	60/ to 66/	66 0	60 0	57 6	57 0
Lamp Trimmers ..	60 0	66 0	..	..	..	..
Maintenance Men ..	60 0	60/ to 66/	66 0	63 0	57 6	60 0
Motormen or Gripmen—						
1st Year	62 6	60/ & 63/	60/ & 63/	60 0	57/6 &63/6	57 0
2nd Year	65 0	63/ & 66/	63/ & 66/	63 0	63 6	60 0
3rd Year	67 6	66/ & 69/	72/6 & 75/	66 0	63 6	63 0
Night Watchmen ..	60 0	60/ & 72/	[37]69 3	60 0	67 6‡‡	57 0
Overhead Wiremen—						
(Leading)	83/ & 89/	69 0	80 0	73 0	69 6	63 0
(Other)	74/ & 80/	66 0	68/3 & 71/6	63 0	57 6	60 0
Pitmen	68 0	69 0	71/6 & 83/	69 0	60 6	63 0
Signalmen	66/ to 72/	72 0	63/3to 69/3	66/ & 69/	..	..
Tower Wagon Drivers						
(Horse)	[25]61 6	63/ & 66/	63 0	64 0	[25]63 6	61 0
(Motor)	[25]67 0	..	..	69 0	..	..
Track Cleaners	60 0	60/ to 66/	60 6	60 0	57 6	57 0
Trimmers or Fuelmen ..	60 0	..	64 0	60 0	60 0*	..

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* Ruling or predominant rates, see note at top of page 246. ** South Australian rates from 1/1/19. † Contract work. †† The number of hours constituting a full week's work in the mining industry is as follows:—**N.S.W., Victoria and W. Australia**—Miners and others underground, 44 hours; engine-drivers and workers aboveground, 48 hours. **Queensland**—Central Division—Miners and others underground work three shifts of 48, 44 and 40 hours each week, payment to be made as though 48 hours had been worked each week; engine drivers and others above ground, 48 hours. Mt. Perry—Miners, etc., 46 hours; engine-drivers, etc., 44 and 48 hours. Other Districts—Miners, etc., 44 hours; engine-drivers, etc., 44 and 48 hours. **South Australia**—Miners and others underground, 44½ hours day shift, 40 hours night shift; engine-drivers and others above ground, 48 hours. **Tasmania**—Miners, etc., 44 and 48 hours; engine-drivers, etc., 48 hours. ‡ The hours of labour for railway employees are 48 per week (in N.S.W. 96 per fortnight), except in the following cases:—Victoria—Porters, 54 hours. S. Australia—Porters and signalmen, 48 to 57 hours; and Tasmania—Guards, porters, shunters and signalmen, 54 hours. Owing to the difference in the classification of grades of railway employees in the various States, only minimum and maximum rates are quoted, excluding those for foremen. ‡‡ Number of hours per week not regulated. § In N.S.W. the rates of wage for 1st class

[*For continuation of footnote see next page.*

GROUP X.—OTHER LAND TRANSPORT.

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Carrying (Merchandise).						
Carriers (One Horse) ..	^{48}*b*60 6	^{17}61 0	^{22}61 0	^{17}61 0	61 0	^{17}61 0
" (Two Horses)	^{48}*b*65 6	^{17}66 0	^{22}66 0	^{17}64 0	66 0	^{17}66 0
" (Three Horses)	^{48}*b*69 6	^{17}68 0	^{22}69 0	^{17}65 0	68 0	^{17}68 0
Corporation Carters—						
One Horse	57 0	^{17}61 0	60 0	61 0	61 0	65 0
Two Horses	..	^{17}66 0	60 0	64 0	66 0	70 0
Jinkers (One Horse) ..	^{48}*b*60 6	^{17}69 0	^{22}69 0	61 0	69 0	^{17}69 0
" (Two Horses)	^{48}*b*65 6	^{17}74 0	^{22}74 0	64 0	74 0	^{17}74 0
Sanitary Carters ..	65 0	^{17}65/ to 75/	^{17}65 0	..	65/ to 75/	65/ to 75/
Stable Hands	^{29}60 6 & 65 6	^{19}60 0	^{26}60 0	^{17}60 0	60 0	^{18}60 0
Tip Dray Drivers ..	^{29}60/ & 65/	^{17}61 0	^{22}61 0	..	61 0	61/ & 66/
Motor Lorries & Waggons						
under 3 tons carry capacity	^{18}*a*65/to74/	66/ & 70/	65/ to 70/	65/ & 70/	66/ & 70/	66/ & 70/
3 tons & over carry capacity	^{18}*a*79 0	74 0	73/ & 75/	65/ & 70/	74 0	74 0
Carrying (Passenger).						
Bus or Coach Drivers (Horse)	..	^{25}57 0	..	54 0	..	^{30}*c*42 0
Chauffeurs	..	^{28}55 0	^{26}60 0	..	..	..
Lift Attendants.						
Goods	60 0	56 0	65 0	54 0*	61 0*	^{33}45 0*
Passenger	60 0	56 0	63/ & 65/	54 0*	61 0*	^{33}45 0*

GROUP XI.—SHIPPING, WHARF LABOUR, ETC.

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Shipping (Ferryboats).						
Deck Hands	55/6 & 58/	..	..	..	..	^{14}44 11
Engineers	72/ to 97/6	..	^{25}80/ & 85/	..	..	^{18}72 3
Firemen	58/ & 61/7	..	^{25}70 0	..	..	^{19}52 0
Masters	72/ to 97/	..	^{25}80/ & 85/	..	$^{12-25}$70 0 to 80 0	68 0
Shipkeepers	$^{8-37}$57 6 to 62 6	..	..	..	..	..
Towing (Tug Boats).						
Engineers	^{25}85 0	90 0	^{25}80 0	^{25}64 6 to 80 0	..	..
Firemen	220 0‖†	69 3 & 71 6	^{25}60 0	^{24}69 0	..	..
Masters	^{25}90 0	78 6 to 87 8	^{25}80 0	^{25}64 6 to 80 0	^{19}75 0	..
Waterside Working.						
Coal Lumpers per hour	2 0	1 9	2 1	1 10	1 9	1 9
Lightermen	66 0	63 0*	^{25}64 0	^{6}66 0	^{12}60 0	..
Wharf Labourers per hour‡	1 9	1 9	1 9	1 9	1 9	1 9
Passenger Vessels (Intra-State)†						
Cooks (Chief) per month.	^{34}205 0 to 315 0	300 0§	300 0§	300 0§	300 0§	160/ & 300/§
" (Second) per month	^{34}175 0 to 215 0	190 0§	190 0§	190 0§	190 0§	130/ & 190/§
" (Third) "	^{34}175 0	150 0§	150 0§	150 0§	150 0§	..
" (Ships) "	^{34}215 0	..	..	..	..	..
Pantrymen	^{36}190 0	^{36}190 0	^{36}190 0	^{36}190 0	^{36}190 0	..
" Assistant ..	^{36}150 0	^{36}160/&170/	^{36}160/&170/	^{36}160 &170/	^{36}160/&170/	..
Stewards	^{36}160 0 to 195 0	^{36}160 0 to 210 0	^{36}160 0 to 210 0	^{36}160 0 to 210 0	^{36}160 0 to 210 0	^{36}110 0 to 210 0

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* Ruling or predominant rates, see note at top of page 246. † Rates of wage quoted are in addition to victualling and accommodation. ‡ Rate of wage quoted is for other than special cargo. § Not more than 10 hours per day. ‖ Per month.

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locomotive drivers correspond to those fixed for drivers driving express passenger or mail trains. 2nd to 5th class correspond to the rates of wage fixed for different lengths of service. The classification of locomotive drivers and firemen employed in the Victorian Railway Service fixes different rates of wage for the following grades of service :—(1) Country Passenger Service ; (2) First-grade Suburban or Mixed Train Service ; (3) Second-grade Suburban or Mixed Train Service ; and (4) Goods or Switching Service. The rates of wage for these services have been taken as corresponding to the 1st, 2nd, 3rd, and 4th Class Classification in the other States, with the exception that Firemen for only three classes of service are graded. ‖ For Sydney and Perth the wages quoted are those determined by State Awards. For Melbourne, Adelaide, and Hobart the rates are those specified in agreements registered under the Commonwealth Conciliation and Arbitration Act. For Brisbane the rates quoted are those specified in an unregistered agreement.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP XI.—SHIPPING, WHARF LABOUR, ETC.—*continued.*

Industry and Occupation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.
Passenger Vessels (Inter-State†	Wages in Vessels of 4000 tons Gross Register and under.	*s.*		Wages in Vessels of over 4000 tons Gross Register.	*s.*	
Bakers .. per month		|||260			|||280	
Barmen .. ,,		^{36}170			^{36}170	
Butchers .. ,,		|||210			|||230	
Cooks (Chief) ,,		|||330			|||360	
,, (Second) ,,		|||250			|||250	
,, (Third) ,,		|||190			|||190	
,, (Ship's) ,,		|||220			|||220	
Pantrymen ,,		^{36}190			^{36}190	
Scullerymen ,,		^{36}170			^{36}170	
Chief Saloon Steward ,,		^{36}180			^{36}180	
Second ,, ,,		^{36}210			^{36}210	
Second Saloon ,, ,,		^{36}210			^{36}210	
Fore Cabin ,, ,,		^{36}190			^{36}190	
Bedroom & other ,, ,,		^{36}170			^{36}170	
All Vessels (Inter-State).† §§			*s.*			
A.B. Seamen per month			245			
Boatswains ,,			265			
Donkeymen ,,			305			
Firemen ,,			285			
Greasers ,,			285			
Lamp Trimmers ,,			265			
Fuel Trimmers ,,			245			
Marine Engineers.†‡ ‡‡		VESSELS. *Under* 100 *N.H.P.*			VESSELS. 100 or *more N.H.P.*	
Chief .. per month		460/ to 510/			530/ to 840/	
Second .. ,,		420/			420/ to 560/	
Third .. ,,		380/			380/ to 480/	
Fourth .. ,,		..			330/ to 420/	
5th, 6th, 7th, & 8th ,,		..			310/	
	INTERSTATE PASSENGER VESSELS.			INTERSTATE CARGO VESSELS.		
Merchant Service.†|| ‡‡	*Lowest Class,* 125 *tons & under.*	*Highest Class, over* 10,000 *tons.*		*Lowest Class* 60 *tons & under.*	*Highest Class, over* 4,000 *tons.*	
Masters .. per month	460*s.*	1360*s.*		380*s.*	780*s.*	
Officers, Chief ,,	360*s.*	520*s.*		300*s.*	420*s.*	
,, Second ,,	300*s.*	460*s.*		260*s.*	360*s.*	
,, Third ,,	..	400*s.*		..	320*s.*	
,, Fourth & Fifth ,,	..	260*s.*		..	260*s.*	

GROUP XII.—AGRICULTURAL, PASTORAL, ETC.

Industry and Occupation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.
Farming. **	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
General Hands*§ ..	20/ to 35/	20/ to 30/	25/ to 35/	25/ to 40/	35/ to 40/	20/ to 25/
Harvesters*§	40/ to 50/	40/ to 50/	48/ to 55/	45/ to 55/	45/ to 55/	30/ to 40/
Milkers*§	25/ to 35/	25/ to 35/	25/ to 30/	25/ to 40/	35/ to 40/	20/ to 25/
Ploughmen*§	30/ to 40/	30/ to 40/	25/ to 35/	25/ to 40/	35/ to 45/	20/ to 30/
Chaffcutters (Portable) ..	..	66 0	..	..	..	^{56}60 0
,, (Stationary)	..	63 0	..	†† 56 0 to 65 10½	..	^{56}56 0
Threshers (Feeders) ..	..	..	..	..	..	^{56}65 0
,, (Machinists)	..	..	..	..	..	^{56}56 0
Gardening. ¶						
Gardeners	72/ & 80/	61 0	74 6	60 0*	60 0	60 0*
,, (Labourers) ..	62 0	58 0	64 0	60 0*	60 0	48/ to 54/*
Nurserymen	72/ & 80/	60 0	70 0*	63 0*	60 0	60 0*
,, (Labourers)	62 0	54 0	55 0*	60 0*	57 0*	48/ to 54/*
Pastoral Workers.						
Cooks§	72 0	72 0	72 0	72 0	80 0	60 0
Shearers .. per 100	30 0	30 0	30 0	30 0	^{6}27 6	28 0
Shed Hands§	60 0	60 0	60 0	60 0	^{6}65 0	50 0
Wool Pressers§	80 0	80 0	80 0	80 0	^{6}100 0	60 0
Rural Workers.						
Fruit Harvesters, per hour	..	1 3½	..	1 3½	..	..

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* Ruling or predominant rates, see note at top of page 246. † Rates of wage quoted are in addition to victualling and accommodation. § Rates of wage quoted are in addition to Board and Lodging provided. ‡ Minimum rates under the Commonwealth Award are classified according to nominal horse-power of vessels. || Minimum rates under the Commonwealth Award are classified for Interstate vessels, and for vessels within a State according to tonnage; the lowest and highest classes for Interstate passenger and cargo vessels are here given. ** Hours in the farming industry vary considerably, and no reliable particulars can be published. †† 51 hours during harvest months, and 48 hours during other than harvest months. ‡‡ **Marine Engineers**—Not more than 8 hours per day in the case where three or more engineers are employed, or not more than 12 hours per day where two engineers are employed, to be worked without payment for overtime. **Masters and Officers.**—Ordinary length of duty in a day at sea or in port or partly at sea and partly at port shall be 8 hours. Five intervals of 24 consecutive hours' leave to be allowed each master, officer or engineer each calendar month. §§ Not more than 8 hours per day. ||| Not more than 10 hours per day. ¶ Melbourne rates from 4/1/19

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP XIII.—DOMESTIC, HOTELS, ETC.

NOTE.—The rates of wage specified for employees in Clubs, Hotels and Restaurants represent the weekly cash payment where Board and Lodging are not provided. If Board and Lodging are provided the following amounts, fixed by Industrial Tribunals, may be deducted from the under-mentioned rates of wage:—**Sydney**, 13s. to 19s. (according to class of establishment); **Melbourne**, 14s.; **Brisbane**, 15s.; **Adelaide**, 14s. (Restaurants); and 15s. (Hotels and Clubs); **Perth**, 22s.; and **Hobart**, 15s. per week.

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s*	*d.*
Clubs (Residential). ‖												
Barmen	^{25}60	0	^{25}60	0	^{25}60	0	^{25}60	0	^{25}65	0*	^{31}45/ & 50/	
Billiard Markers ..	^{39}d60	0	^{31}45/ & 50/		^{25}63	0	^{28}54	0	^{28}47	0*	^{31}45	0
Lift Attendants	^{39}d60	0	^{28}51	4	63/ & 65/		^{28}54	0	..		..	
Porters (Day Work) ..	^{39}d60	0	^{31}44	0	^{25}63	0	^{28}54	0	^{28}47	0*	^{31}35	0
„ (Night Work) ..	^{39}d60	0	^{31}46	6	^{25}63	0	^{28}54	0	^{28}54	0*	^{31}37	6
Cooks (Hotels, Clubs, etc.). ‖												
Chefs	69	9†	^{31}59	0	81	6§	75	0††	^{28}83	0	^{31}50	0
	to114	0	to 79	0	& 86	6	to110	0	& 92	0	to 95	0
Cooks (Second)	61	0†	^{31}57	0	69	0§	64	0††	^{28}67	0	^{31}40	0
	to 84	0	to 62	0			to 85	0	& 72	0	to 75	0
„ (Third)	60	0†	^{31}54	0	69	0§	60	0††	^{28}62	0	^{31}40	0
	to 74	0	to 57	0			to 70	0			to 60	0
Kitchenmen	60	0†	^{31}44	0	63	0§	54	0††	^{28}54	0	^{31}35	0
Hairdressing.												
Full Hands .. .	^{19}66	9	^{19}70	0	..		..		..		..	
Hairdressers	^{19}63	0	^{19}60	0	66	0	^{19}62	6	^{22}60	0	^{28}55	0*
Hotels. ‖												
Barmen	^{25}60	0	^{25}60	0	^{25}60	0	^{25}60	0	^{25}65	0	^{31}45	0
											& 50	0
Billiard Markers ..	^{31}60	0	^{31}45/ & 50/		^{25}63	0	^{28}54	0	^{28}47	0	^{31}37	6
Handymen	^{31}60	0	^{31}39	0	^{25}63	0	^{28}54	0	^{28}47	0	^{31}30	0
											& 35	0
Lift Attendants	^{31}60	0	^{28}51	4	63/ & 65/		^{28}54	0	..		..	
Porters (Day Work) ..	^{31}60	0	^{31}44	0	^{25}63	0	^{28}54	0	^{28}47	0	^{31}35	0
„ (Night Work) ..	^{31}60	0	^{31}46	6	^{25}63	0	^{28}54	0	^{28}54	0	^{31}37	6
Waiters (Head)	^{28}65	6	^{31}56	0	^{25}68	0	^{28}65	0	..		^{31}40	0
											to 55	0
„ (Others) ..	^{28}60	0	^{31}48	0	^{25}63	0	^{28}54	0	^{28}59	6	^{31}35	0
											to 45	0
Restaurants. ‖												
Pantrymen	60	0‡	^{31}44	0	63	0	54	0	^{28}54	0	^{31}40	0
Waiters	60	0‡	^{31}48	0	63	0	54/ & 56/6		^{28}59	6	^{31}35/ to 45/	

GROUP XIV.—MISCELLANEOUS AND GENERAL LABOUR.

Industry and Occupation.	Sydney.		Melbourne		Brisbane.		Adelaide.		Perth.		Hobart.	
Bill Posting.												
Billposters	60	0	57	6	57/6 to 65/*		^{5}55/ to 60/*		60/ to 65/*		60	0*
Factory Engine Driving.												
Engine Drivers (Stationary)												
1st Class	73/6 & 75/		66/ to 75/		88	0	69/ to 75/		75	0	72/*to 75/	
2nd Class	71/6 & 72/		60/ to 72/		80	0	66/ to 72/		72	0	66/*to 72/	
3rd Class	67/ & 69/		57/ to 69/		72	0	60/ to 69/		69	0	63/*to 69/	
Firemen (1st Class) ..	66/ & 67/		60/ to 66/		70	0	66	0	66	0	60/*to 64/6	
„ (2nd Class) ..	62/6 to 64/6		57/ to 64/6		..		58/ to 64/6		64	6	57/*to 63/	
Greasers	62/6 & 63/		54/ to 63/		70	0	54/ to 63/		63	0	54/* to 63/	
Trimmers	62	6	54/ to 60/		64	0	54/ to 60/		60	0	54/*to 60/	
Fuel Distribution (Coal and Coke).												
Baggers and Loaders ..	62	0	70	0	..		48	0	..		59	0*
Carters (One Horse) ..	62	0	^{19}61/ & 62/		^{19}61	0	48	0	61	0	^{17}61	0
„ (Two Horses) ..	67	0	^{19}66/ & 67/		^{19}66	0	50	0	66	0	^{17}66	0
Trimmers	62	0	84	0	..		48	0	..		62	0*

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* Ruling or predominant rates, see note at top of page 246. † The hours of cooks, etc., in Sydney are 48, 55, 57 and 58 per week, according to the class of establishment. ‡ 48 and 58 hours per week, according to class of establishment. § 48 and 54 hours per week, according to class of establishment. †† 48 and 56 hours per week, according to class of establishment. ‖ Sydney rates from 3/1/19.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUP XIV.—MISCELLANEOUS AND GENERAL LABOUR—*continued.*

Industry and Occupation.	Sydney.	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Fuel Distribution (Firewood).†	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Carters (One Horse) ..	62 0	^{18}60 0	^{10}61 0	48 0	61 0	^{17}61 0
,, (Two Horses) ..	67 0	^{18}65 0	^{10}66 0	50 0	66 0	^{17}66 0
Other Adults	62 0	^{17}60 0	..	49 0	..	..
Sawyers	62 0	65 0	60/ & 65/*	57 6	..	60 0*
Yardmen	62 0	^{17}60 0	..	48 0	..	54 0*
Lamp Lighting.						
Lamp Lighters	^{28}63 0	63 0	60 0	61 6	55 0	59 0‡
Marine Stores.						
Bottle Washers	57 6	60 0	60 0	60 0	63 0	..
Foremen	65 0*	63 0	63 0	63 0	..	..
General Hands	57 6	57 0	60 0	60 0	63 0	..
Municipal.						
Labourers	62/ & 64/	61/to 67/6*	64 0	63 0	60 0	60 0*
Street Sweepers	57 0	61/ to 67/*	64 0	63 0	60 0	60 0*
Musicians.						
Orchestral	$^{1\cdot1}a$60/to80/	$^{1\cdot1}a$60 0 & 75 0	$^{1\cdot1}a$60 0 & 75 0	$^{1\cdot1}a$60 0 & 75 0	$^{1\cdot1}a$60 0 & 75 0	$^{1\cdot1}a$60 0 & 75 0
Shop and other Assistants.						
Boot Salesmen §¶ ..	60/ to 66/6	48/ to 67/6	47/6 to 68/	^{14}64 0	62 6	^{12}40/to 70/*
Chemists' Assistants ..	70 0	^{16}50/ to 90/	63/ to 90/	^{22}55/to 80/	..	..
Clerks	55/6 to 63/	62 0	$^{17\cdot19}$40/ to 60 0	..	..	..
Confectionery Salesmen..	^{25}52 6	..	47 6to 68 §§	..	62 6	..
Drapery Salesmen§ ..	60/ to 66/6	60/ to 72/	47/6 to 68/	^{14}64 0	62 6	^{12}40/to75/*
Fruit Salesmen	^{25}52 6	..	47/6to 68 §§	..	..	..
Furniture Salesmen § ..	60/ to 66/6	72 6	47/6 to 68/	^{17}65 0*	65 0	^{12}40/to75/*
Grocery Salesmen ..	60/ to 65/	55/to 65/	47/6 to 68/	^{17}55/ & 61/	62 6	60 0
Newsagents' Assistants ..	55/6 to 61/	..	47/6to 68/§§	^{14}64 0	62 6	..
Railway Bookstall Assist'ts	55/6 to 61/	..	47 6to 68 §§	..	62 6	..
Tobacconists' Salesmen**	60/ & 61/	..	47/6 to 68/	..	62 6	..
Clothing (Mens').						
Collectors, Doormen and Travellers§	60/ to 66/6	75 0	..	..	67 6	..
Departmental Managers	70/ & 75/	80 0	..	..	..	..
Parcels Officemen ..	..	62 6	..	..	61 0	..
Salesmen§..	60 0 to 66 6	50/ to 75/	47/6 to 68/	^{14}64 0	62 6	^{12}40 0 to 75 0*
Hardware.						
Managers (Branch) ..	70/ & 75/	80 0	..	^{17}100 0	..	..
,, (Departmental)	70/ & 75/	85 0 to 100 0	..	^{17}85 0 & 90 0	90/ to100/*	^{16}90 0
Salesmen (Junior) ..	29/ to 44/	50/ to 68/	..	^{17}42 6 to 57 6	..	^{15}40 0 to 55 0
,, (Outside) ..	..	80 0	..	^{17}50 0 to 72 6	..	..
,, (Senior) ..	60/ to 66/6	74 0	47/6 to 68/	^{17}60/ & 63/	65 0	^{16}60 0
Storemen—Packing, Cleaning, etc.).						
Night Watchmen ..	^{40}a60 0	^{27}60 0	^{27}66 0	^{28}60/ & 68/	56 0	^{37}47/6to70/*
Office Cleaners	60 0	56 0	63 0	..	61 0*	..
Packers (General)** ..	‡‡63/to65/6	66 0	^{10}65/ & 67/6	††58/ & 65/	62 6	57 6
Storemen (General)** ..	‡‡61/6to64/	66 0	^{10}65/ & 67/6	††58/ & 65/	61 0	57 6
Wholesale Grocery.‖						
Packers (Head)	^{12}66/6 to 91/	60/ to 75/	^{10}69/to 94/	71 0	63 0*	66 6
,, (Others) ..	^{12}63 0	58 0	^{10}65 0	58 0	62 6	59 0
Storemen (Head) ..	^{12}66/6to91/	65/ to 85/	^{10}69/to 94/	71 0	73 0*	66 6
,, (Other) ..	^{12}61 6	65 0	^{10}65 0	58 0	61 0	59 0
Wholesale Hardware.‖						
Packers	^{12}63 0	65 0	^{10}65 0	^{17}58 0	62 6	^{16}45/to 55/
Storemen	^{12}61 6	65 0	^{10}65 0	^{17}58 0	61 0	^{16}45/to 55/
Surveying.						
Surveyors(Cooks) for 7 days	60 0	^{28}70 0*	70 0‡	^{25}70 0*	63/ to 70/	..
,, (Foremen) ..	63 0	66 0*	..	..	72 0	..
,, (Labourers)	57 6	60 0*	60 0	60 0*	60 0	..

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* Ruling or predominant rates, see note at top of page 246. † Melbourne rates from 25/1/19. ‡ Number of hours per week not regulated. § Sydney rates from 7/1/19. ‖ Sydney rates from 17/1/19. ¶ Melbourne rates from 6/1/19. ** Sydney rates from 3/1/19. †† 50 hours per week in shops and 48 and 50½ hours per week other than in shops. ‡‡ 48 and 47⅝ hours per week. §§ Daily limitation of hours not regulated.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

APPENDIX VIII.

Minimum Rates of Wage for Adult Female Workers in the Main Occupations in the Capital Town of each State for a Full Week's Work, at 31st December, 1918.

(*See Explanatory Note at top of page* 246).

GROUP III.—FOOD, DRINK, TOBACCO, ETC.

Industry and Occupation.	Sydney.‖	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Biscuit Making.‡						
Adult Females	25 0	31 0	32 6	27 6*	20/to32/6*	..
Butter Making.						
Adult Females	..	33 0	..	30 0*	..	..
Cheese Making.						
Adult Females	..	33 0	..	25 0*	..	..
Confectionery.						
Chocolate Dippers	27 0	30 0	32 0	25 0	20/ to 22/6	..
Other Adults	24/ to 27/	28 0	32 0	25 0	20/ to 22/6	20/ to 25/*
Jam Making and Preserving.						
Fillers	28/ & 37/	33 6	30 0	25 0	20/ to 30/*	27 0
Other Adults	26 0	28 0	30 0	25 0		22 6
Pastry Cooks.						
Adult Females	25/6 to 45/	27 0	30 0	..	..	..
Tea Packing.						
Head Women	^{12}a35 0	35 0	^{10}32/6 to43/	..	..	40 0
Other Adults	^{12}a27 0	29 0	^{10}30 0	30 0*	..	27 6
Tobacco Working (Cigars).						
Ringers	27 6	24 0	..	25 0*	..	..
Wrapper Leaf Strippers	27 6	35 0	..	30 0*	..	..

GROUP IV.—CLOTHING, HATS, BOOTS, ETC.

Industry and Occupation.	Sydney.‖	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
Bootmaking.						
Machinists (Wax Thread)	42 0	42 0	34 0	41 0	..	42 0
Other Adults	34 0	34 0	34 0	33 0	34 0	34 0
Dressmaking.						
Adult Females	^{10}a27 6 to 35 0	28 0	^{10}a32 6	29/ to 45/6	30 0 to 34 0	^{13}25 0 to 35 0*
Dyers and Cleaners.						
Adult Females	30 0 to 40 0*	28 6 to 40 0	^{6}24/6to 35/*	25/ to 35/*	30/ to 35/*	..
Hat Making (Straw).						
Finishers	^{10}25 0	30 0*	^{13}a20 0 to 22 6*	..	..	..
Machinists	^{10}30 0	35 0*	^{13}a37 6*	..	..	..
Millinery.						
Adult Females	^{10}a35 0	30 0	25/ to 30/*	25 0	30 0	^{6}25 0*
Shirt Making.						
Adult Females	$^{10}a{\cdot}^{11}a$32 6	27 6	^{12}27 6	29/ to 42/6	30 0	^{6}25 0*
Tailoring (Order).†						
Machinists (Coat Hands)	35 0	30 6	36 0	30 0	40 0	25/ to 47/6
,, (Trousers, Vest Hds.)	31 0	30 6	32/6 & 36/	30 0	40 0	25/ to 47/6
Tailoresses (Coat Hands)	38 0	32 6	36 0	32 6	45 0	32/6to39/6
,, (Trousers, Vest Hds.)	34 0	30 6	32 6	30 6	35 0	30 6
Tailoring (Ready-made).						
Machinists (Coat Hands)	25 0	29 6	^{12}29 6	28 0	35 0	^{5}b25 0
,, (Trousers, Vest Hds.)	23 0	29 6	^{12}28 0	28 0	32 6	^{5}b25 0
Tailoresses (Coat Hands)	29 6	29 6	^{12}29 6	27 6	32/6 & 40/	^{5}b25 0
,, (Trousers, Vest Hds.)	28 0	28 0	^{12}28 0	25 0	30/ & 35/	^{5}b23 6

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* Ruling or predominant rates, see note at top of page 246. † The higher rates quoted in Tasmania are for treadle machinists. ‡ Melbourne rates from 17/1/19. ‖ The rates of wage quoted in this column are those prescribed by Awards and Industrial agreements. It is pointed out, however, that the Board of Trade issued a declaration, gazetted 20th December, 1918, fixing the minimum wage to be paid to adult females in the Metropolitan Area at 7½d. per hour, 5s. per day, or 30s. per week.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

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GROUP IV.—CLOTHING, HATS, BOOTS, ETC.—*continued.*

Industry and Occupation.	Sydney. ¶	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
†	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
TextileWorking(Woollen Mills)						
Comb Minders	31 0	33 0	30 0	27 6*	..	22 6
Drawers and Menders ..	35/ & 40/	33 0	30 0	27 6*	..	22 6
Gillbox Minders	31 0	33 0	30 0	27 6*	..	22 6
Other Adults	31 0	33 0	30 0	26/ to 27/6*	..	22 6
Warpers	35/ & 40/	36 6	38 0	35 0*	..	22 6
Weavers (Loom) ..	40 0	39 0	38 0	30/ to 35/*	..	22 6
Tie Making.						
Machinists	30/ to 35/*	20/ & 22/6	..	..	..	..
Needlewomen	20/ to 30/*	22/6 & 25/	..	..	..	..
Pressers, Boxers & others	20/ to 30/*	20 0	..	..	..	..
Underclothing.						
Adult Females	^{10}a22 6 to 32 6	28/ to 33/	25 0*	26 0	30 0*	^{6}25 0*
Waterproof Clothing.						
Garment Makers ..	32 6*	31 0	..	..	..	..
Needlewomen		31 0	..	..	..	..

GROUPS I., II., V., AND VI.—PRINTING AND OTHER MANUFACTURES.

Industry and Occupation.	Sydney. ¶	Melbourne	Brisbane.	Adelaide.	Perth.	Hobart.
Bedding and Furniture.						
Bedding Machinists ..	^{6}33 0	33 0	^{6}33 0	28 6	..	32 0
Mattress (Wire) Workers	..	43 0	..	25 6	..	32 0
Picture Frame Workers	^{6}30 0	^{6}30 0	..	..	..	..
Bookbinding.						
Folders	^{7}30 0	32 0	28 0	26 0	25 0 to 30 0*	^{6}27 6
Sewers	^{7}32/& 37/	34	28 0	26 0		^{6}28 0
Brassworking.						
Coremakers	37 0	30 0	..	..	..	..
Other Adults	20 0	..	..	..	..	..
Brush Making.‡						
Bass Broom Drawers ..	32 0	..	45 0	21 0	..	..
Bench Drawers	32 0	30 0		21 0	..	..
Machinists (Treadle Knot)	32 0	30 0		21 0	..	..
Candle Making.						
Forewomen	38 6	32 6	..	32 6	..	..
Cardboard Box Making.‖						
Box Makers	32 6	32/ & 37/6	^{11}30/ to 35/*	26 0*	20/ to 30/*	..
Other Adults	32 6	30 0	^{11}22/to27/6*	22 0*	20/ to 30/*	..
Jewellers.						
Chainmakers	39/6 &44/6	38 6	50 0	60 0§	..	..
Enamel Fillers	21/ to 31/6	..	40 0	60 0§	..	..
Gilders	39 6	40/ & 50/	40 0	40 0§	..	..
Polishers	39 6	40/ & 50/	40 0	40 0§	..	..
Scratch Brushers ..	39 6	35 0	40 0	40 0§	..	..
Workers N.E.I.	44 6	58 0	40 0	60 0§	..	..
Leather Small Goods.						
Hand Stitchers	30 0	30 0	36 0	30 0	..	30 0
Other Adults	30 0	30 0	36 0	30 0	..	30 0
Paper Making.						
Adult Females	22 6	27 0	..	..	..	..
Paper Bag Making.						
Adult Females	28 0	25/ & 28/	20/ to 28/*	25/ & 27/6*	..	..
Polish Making.						
Adult Females	20/ to 30/*	32 6	..	32 6	..	..
Portmanteau Making.						
Adult Females	30 0	30 0	36 0	30 0	..	30 0
Potteries.						
Adult Females	28 6	32 0	32 6	..	..	..

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* Ruling or predominant rates, see note at top of page 246. † Melbourne rates from 6/1/19. ‡ Melbourne rates from 11/1/19. § Hours of labour per week: 48 (daylight), 45 (artificial light). ‖ Sydney rates from 3/1/19. ¶ See footnote ‖ on page 266.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

GROUPS I., II., V., AND VI.—PRINTING AND OTHER MANUFACTURES—*continued.*

Industry and Occupation.	Sydney.††	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Printing.						
Jobbing Office Assistants	^{7}28 0	32 0	28 0	26 0	20/ to 30/*	^{6}27 6
Lithographing Feeders ..	^{7}30 0	32 0	28 0	26 0	..	^{6}27 6
Rubber Working.						
Adult Females	28 0	31 0	..	..	..	..
Saddlery and Harness Makers						
Adult Females	30 0	30 0	36 0	30 0	30 0	30 0
Sail Making.						
Adult Females	30 0	30 0	^{6}22 6 to 37 6*	32 0	^{12}25 0 to 40 0*	..
Soap Making.						
Adult Females	27 6	32 6	..	32 6	..	..
Tent and Tarpaulin Makers.						
Machinists	^{12}27 6 to 32 6	30 0	27 6 to 32 6	32 0	^{12}25 0 to 40 0*	..
Wickerworking.						
Adult Females	35 0	..	..	40 0	..	..

GROUP XIII.—DOMESTIC, HOTELS, ETC.

NOTE.—The rates of wage mentioned herein for employees in Hotels and Restaurants represent the weekly cash payment where Board and Lodging are **not** provided. If Board and Lodging are provided the following amounts, fixed by Industrial Tribunals, may be deducted from the under-mentioned rates of wage: Sydney, 11s. to 19s. (according to class of establishment); **Melbourne**, 14s.; **Brisbane**, 15s.; **Adelaide**, 14s. (Restaurants); and 15s. (Hotels); **Perth**, 22s.; and **Hobart**, 15s. per week.

Industry and Occupation.	Sydney.††	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
Hotels.¶						
Barmaids	^{17}43 0	^{17}44 0	^{17}43 0	^{17}60 0	65 0	^{21}35 0 & 40 0
Housemaids	^{28}37 0	^{28}32 0	^{25}36 0	^{26}35 0	^{19}42 0	^{21}27 0 & 30 0
Laundresses	42 6	^{26}40 0	41 0	40 0	^{19}42 0	..
Waitresses (Head) ..	^{28}38 0	^{28}35 0	^{25}41 0	^{28}40 0	..	^{21}35 0 & 40 0
„ (Other) ..	^{28}38 0	^{28}32 0	^{25}36 0	^{28}35 0	^{19}44 6	^{21}30 0 & 35 0
Laundries.						
General Hands	21 0	25/ to 30/*	30 0	20 0	36 0	24 0**
Machinists (Shirt & Collar)	25 0	28 0	30 0	20 0	42 0	24 0**
Sorters	25 0	26/ to 30/*	30 0	22 0	36 0	24 0**
Starchers	25 0	24 0*	30 0	20 0	36 0	24 0**
Washers	25 0	24/ to 30/*	30 0	20 0	36 0	24 0**
Office Cleaners.						
Adult Females	^{4}28/6 & 31/6	^{2}27 6	44/ to 48/	^{10}21 0*	..	‖15/ to 20/*
Restaurants.¶						
Pantry Maids	34 3 to 37 9§	^{28}31 0	35 0	31 6	^{19}42 0	^{21}30 0
Waitresses	33 6 to 41 3§	^{28}32 0	35 0	34/ & 39/	^{19}44 6	^{21}30/ & 35/

GROUP XIV.—SHOP ASSISTANTS, CLERKS, ETC.

Industry and Occupation.	Sydney.††	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
Clerks, etc.						
Cashiers	27 6 to 38 6	34 6	40/ to 50/	30 0*	37 6	20 0 to 30 0*
Clerical Assistants ..	27 6 to 38 6	39 0	40/ to 50/	25 0*	..	20 0 to 30 0*
Saleswomen.						
Boot‡	27 6 to 38 6	28/6 to 37/6	25/ to 40/	^{14}25 0 to 31 6	37/6 & 40/	20 0 to 30 0*
Drapery	27 6 to 38 6	28/6 to 37/6	25/ to 40/	^{14}25 0 to 31 6	37/6 & 40/	20 0 to 35 0*
Fruit & Confectionery ..	^{24}20 0	..	25/ to 40/†	..	37 6	20 0 to 25 0*
News Agent & Bookstall	27/6 to 35/	..	25/ to 40/†	^{14}25/ to 31/6	37 6	..
Tobacconists	30/ to 42/6	..	25/ to 40/†	..	37 6	25/ to 35/*

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* Ruling or predominant rates, see note at top of page 246. † Daily limitation of hours not regulated. ‡ Melbourne rates from 6/1/19. § Hours vary, 48 are worked in some establishments and 56 in others. ‖ No fixed hours. ¶ Sydney rates from 3/1/19. ** By Act of Parliament, November, 1917. †† See footnote ‖ on page 266.

NOTE.—The numerical prefixes in small type refer to the fact that the number of working hours constituting a full week's work is other than 48. For reference to these prefixes see footnote to table on page 246.

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